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THE

Vedic Magazine

AND

GURUKULA SAMACHAR.

Edited by Professor RAMA DEVA.

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HISTORY OF ANCIENT INDIA

PART I.

(IN ARYA BHASHA)

BY PROFESSOR RAM DEVA

The first edition was all sold in 3 months. The second Edition is now out and is selling fast. The book is extremely popular. It is the first publication of its kind. It deals with the literature, polity, social institution, intellectual achievements and military glories of Ancient Aryas, presents a connected story of the origin, development perfection and incipient decay of Ancient Aryan civilization, discusses the mental, moral and political causes of India's rise and decline as a world-power, refutes the theory that the ancient Aryas were beef-eaters and attempts to describe the different democratic forms of Government that prevailed in Ancient India. Price Rs 1 annas 4 only. To be had from the manager, Gurukula Book Depot Kangri, P. O. Shampur, District Bijnor.

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THE

Vedic Magazine

सर्वेषामेव दानानां ब्रह्मदानं विशिष्यते । (मनु०)

"Of all gifts that of Divine knowledge is the highest and the noblest." *Manu.*

VOL. V. } CHAITRA. 1968. { No. 10.

Individuality and the Higher Incentives to Effort.

(A paper contributed to the 2nd International Moral Education Congress.)

There are, roughly speaking, two points of view from which educational problems may be considered. According to the first, education is nothing more than a system of training whereby the individual may gain the means, or acquire the capacity of adapting himself, more or less skilfully, to his "environment" thus enabling him to "earn a livelihood" or "win a position in the world." "A good reputation," "sound practical efficiency" and "thoroughness" express the ideals, method and purpose, which, it is contended, should always be kept in view. This represents the point of view of a vast majority of educationalists. The other point of view, held by a comparatively small, though I am glad to think a growing

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minority, represents the aim of education as a preparation for the development of all those finer qualities of heart and mind which are necessary for the upbuilding of a truly noble character.

These two points of view are not of necessity mutually exclusive; but they represent respectively two schools of thought, which are often so narrowly expressed, as to appear altogether conflicting. Even when both views are accepted as no more than the co-ordinating and complimentary aspects of one and the same process, a serious conflict of opinion may arise as to which should have the first place, which should be subordinated and which should be considered supreme. We are confronted in short with the old conflict between God and Mammon. What now are the incentives to effort called into play by the first and more ordinary stand-point? Briefly stated they are: the desire for material comfort and security, the love of approbation and applause, the love of power, dominion and distinction. All these can be made very effective incentives to exertion, perseverance, and endurance. The competitive system, which these educationalists usually extol, is a very powerful instrument for evoking such motives; but, though not always clearly perceived, the goal aimed at is personal gain—gain that is at the expense of fellow-competitors. In this struggle for self-advancement, there inevitably arises a vast amount of false expectation with its consequent disappointments, bitterness and resentments. It is no doubt generally conceded that a certain infusion of the "moral element" is needed to mitigate the evil effects of competition, but where this is the dominant factor, such infusion can never be thoroughly effective.

We have now to consider what is the true meaning of INDIVIDUALITY. How is it to be distinguished from EGOTISM? Is the growth of individuality incompatible with self-surrender? I stoutly maintain that this is not the

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case; but that, by making moral ideas supreme from the very beginning, the child-mind can be induced to regard success in life as solely a question of its advancement towards a more perfect state—that it can be induced to look upon good character, not mere reputation, as far more precious than any outward possessions. This advancement towards a perfect life is a process of continual expansion. It is a constant letting go of those attachments of those limitations that are properly outgrown. Thus results and achievements should not be treasured up in the memory as POSSESIONS but as mere indications of certain stages in the great process of character—building, as land-marks, useful no doubt in the plotting out of a survey, but as useless in themselves. It cannot be too strongly insisted upon that all those tastes and preferences, which determine our choice of action, are not fixed entities, but are the fluctuating outcome of our beliefs and perceptions. Whether we regard our desires as being inborn, or acquired, they can be cultivated or repressed by suitable instruction, so that we may learn to distinguish between the mere outward marks of skill, ability, and virtue and the acquisition of those higher qualities themselves; learn to prefer the latter. How, it may be asked, are such ideas to be taught? To this I would reply that it is a matter of universal observation that all children are IMITATIVE, that is to say they are susceptible to example and suggestion. Further it is generally recognised that children are naturally "curious" and "inquisitive" which epithets are more or less opprobrious equivalents for THE LOVE OF TRUTH. I would contend, therefore, that if these higher natural instincts and tendencies are well directed we have an abundant source of incentives, rendering reliance upon the cultivation of lower motives, with their baneful consequences, altogether unnecessary. It is quite true of course that in most children the acquisitive and aggressive

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spirit is always latent and ready to seek expression on the slightest provocation; but if parents and teachers could be convinced of its dangers and induced to avoid making any appeal to it, it would soon lie buried and innocuous in a mass of wholesome habits and associations.

My contention, therefore, amounts to this: that the cultivation of true individuality implies a continuity of higher effort, associated always with detachment from and the surrender of outward results; while "egotism" is the expression of a mental habit to seize and hold these results as separate possessions, with a delusive belief in their reality and permanence.

To conclude:—Education when coupled with the term "moral" implies that the formation of high character is to be regarded as not merely INCIDENTAL—that it is not, so to speak, to be a mere by-product of the educational process but that it should be recognised as the supreme aim, that to which all other purposes are subordinated. The cultivation and development of the child's intellectual capacity is, of course, included in the operation. but not in a manner which ignores the vital necessity of awakening in its mind those qualities of heart, those feelings, those sound judgments in difficulties of conduct and endeavour and those perceptious of nobler ideals, which conduce to the leading of a righteous life. The great purpose of education, in short, becomes the development of a natural disposition to prefer the good, the true and the beautiful to their artifical copies. Right living thus presents itself spontaneously to the mind as a course both attractive and interesting, rather than in the guise of disagreeable obligations imposed as a condition of securing personal advancement and immunity.

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THE BHAGAVADGITA

OR

THE LORD'S SONG.

SIXTH DISCOURSE.

The Blessed Lord said:

1

Whoso performeth action here,
Not longing for its fruit at all,
He is a Yogi, unattach'd,
Not he that's homeless, without rite.

2

What they Renunciation call,
Is one with Yog, O Pandu's son,
No one a Yogi can become
Without renouncing action's fruit.

3

And for a sage in quest of Yog,
Action is called the means thereof,
While for the same in Yog enthroned,
'Tis said, the means is quiescence.

4

When no attachment does he feel
For action, or for things of sense,
Renouncing all formative will,
Then is he called the Yog-Enthroned.

5

Let such a man raise Self by Self,
Let not the Self be trampled down,
For Self is friend of Self, forsooth,
As Self is foe of Self, indeed.

6

The Self is friend of Self to him
Who has subdued his inner Self,

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But to the Self that's unsubdued,
The Self is sure an enemy.

7

The Self of him, O Pritha's son,
Who is serene and poised well,
Is uniform in heat and cold,
In shame and honour, grief and joy.

8

That Yogi harmonised is called,
Content with knowledge and with Self,
To whom a clod of earth and stone,
And glittering gold are all the same.

9

He who regardeth all alike
Lovers and friends and enemies,
Neutrals, relatives, foreigners,
Righteous, unrighteous, excels all.

10

Let Yogin then compose his mind,
Remaining in a lonely place,
With thought and Self complete subdued
And free from hope and avarice.

11

Choosing a place perfectly pure,
Established on a seat secure,
Neither much raised nor very low,
Covered with cloth or kush or skin

12

There having placed his mind at rest,
With thought and function all subdued,
And planted firmly on his seat
Let him by Yog illumine Self.

13

Body and head and neck erect,
Immovable and firmly fixed,

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His gaze on nose-tip steady made,
And not allowed to roam at will.

14

At peace with Self, and free from fear,
Observing vow of continence,
The mind restrained, and full of me,
Let him, attuned, *be wrapt in me.*

15

United thus with Self within,
With mind and senses all subdued
The Yogin gains unending bliss
And evermore abides in me.

16

A glutton is not fit for Yog,
Nor one who underfeeds himself,
Nor yet the one who sleepeth much,
Nor one to wakefulness resign'd.

17

The man who regulated is
In food and rest and merriment,
In action, sleep and wakefulness,
Attains to Yog that killeth pain.

18

When on the Self is fix'd his thought
Free from desire of worldly things,
And mind and senses are controll'd,
Then is he call'd the man attuned.

19

As in a windless place, a lamp
Keeps up its flame, and flickers not,
Such also is a Yogi true
Absorbed in union with the Self.

20

In which the mind doth find its peace,
Becalmed by constant practices,

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In which he, seeing Self by Self,
With Self alone doth rest content,

21

In which he findeth joy supreme,
Which Reason only can secure,
Which lies beyond the reach of Sense,
In which Established, moveth not,

22

Which, having gained, he feeleth sure,
There is no greater gain beyond,
Wherein established firmly, whom
No sorrow shaketh in the end,

23

That should be known as Yoga true,
From sorrow's tinge perfectly free,
This Yoga should be firmly grasped
And with a dauntless mood of mind.

24

Aband'ning all desires born
Of thought for Self, without reserve,
And by the mind controlling all
The Senses in their aggregate,

25

Let him internal quiet gain
And step by step, with Reason's help,
And making mind abide in Self,
Let him not think of worldly things.

26

As often as the wand'ring mind
Inclines to roam about at large,
So often let him rein it in
And bring it under Self's control.

27

That Yogi finds the Bliss Supreme
Whose mind is full of quiescence,

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Whose passion-nature is subdued
Who sinless is, and one with Brahm.

28

Thus gaining harmony with Self,
His sins all wash'd away for good,
The Yogi gains eternal joy,
And bliss of contact with Supreme.

29

The Self, thus harmonised by Yog,
Seeth the Self in everything
And everything beholds in Self,
Regarding everything the same.

30

Who everywhere seeth me,
And everything in Me beholds,
Of him I never lose the hold,
As he shall never lose my own.

31

Whoso, in oneness rooted firm,
Worships Me as the Soul of all,
That Yogi sure liveth in Me,
Whatev'r his mode of living be.

32

Whoso, through likeness of the Self,
On ev'ry side beholds the same,
Pleasant or painful minding not,
A perfect Yogin is he called.

33

Arjun Said:

But for this Yog of Evenness,
Which Thou hast taught, O Madhu's foe,
I fail to see a basis firm,
Owing to restlessness of mind.

34

Fickle, O Krishna, is the mind,
Impetuous, perverse, hard to bend,

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To curb it as difficult is
As to restrain the wayward wind.

The Blessed Lord said :

35

No doubt, O mighty-armed One,
The mind is hard to keep in check,
Yet it may in control be held
By practice and by unconcern.

36

Yoga is also hard to win,
Methinks by one that's unsubdued
But by the Self that keeps control,
It may by proper means be gain'd.

Arjun said :

37

Whoso is full of faith, O Krishn,
But lacks control and striveth not,
Or fails to reach perfection here,
Which way does such a person go?

38

Fallen from both is he undone,
And scattered like a riven cloud,
Benighted on the above path,
Has he no prop, O mighty-arm'd?

39

Be pleased, O Krishn, to solve this doubt
Composing thus my wav'ring mind
For barring Thee I know now else
Who can resolve this doubt of mine.

The Blessed Lord said :

40

In neither world, O Pritha's son,
Does ruin lie in wait for him,
For never doth the doer of right,
O dearest, tread the path of pain.

41

Having attain'd to regions pure,
And dwelling there for ages long,

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Whoso from Yoga falls away,
In pious family is born.

42

Or he may take his birth in home
Of Yogins wise and learned, too,
But such a birth is hard to gain
In this our world, O Pritha's son.

43

There he the qualities attains
Which to his former life belonged,
And with these doth he strive again,
To win perfection, Kuru's joy.

44

By former practice swept away,
And irresistibly impell'd,
Though only wishing Yog to know,
He gets beyond the Brahmic world.

45

But fortified in mind and will,
And purified from taint of Sin,
The Yogin here through many births,
Attains at last to goal Supreme.

46

The Yogin is superior to
The hermit as well as the Sage,
Greater than man of action, too,
Be thou a Yogi, Arjun then.

47

And mon'gst them all whoso is full
Of faith, and love intense for me,
And with the inner Self abides,
The most attuned I reckon him.

Here Ends the Sixth Discourse.
Entitled.
The Yoga of Self Subdual.

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HOMA—AN OBJECTION ANSWERED.

All organic substances met with in this world contain the element carbon as one of their constituents. When chemical action is accompanied by light and heat, the phenomenon is called combustion. The reverse of this statement is not necessarily true. For instance, the exhibition of light and heat in metallic wires after the passage of electricity is not an example of combustion, for it is not a chemical action. Well, we take a peice of charcoal and ignite it, gradually it all passes away leaving a weight for weight proportionately very small quantity of what is known as ashes. The rest of it has been changed into carbon dioxide and in this gaseous form has passed away into the atmosphere. Thus we learn that the combustion of coal is attended with the production of carbon dioxide. Again this gas in the atmosphere serves as food for the vegetable kingdom. The plants suck it through their leaves, absorb it through their roots and thus assimilate it in their very bodies. The changes are not complete as yet, for to search for anything motionless and stationary in this world of ours is running after the mirage. The rays of the sun convey to us enormous supplies of light and heat. They also fall on the plants and thus decompose the carbon dioxide which the latter have absorbed from the atmosphere. The oxygen is liberated and given over to the atmosphere, while carbon remains stored up in the tissues of the plants. The process is repeated and everyday the plant grows assimilating more and more carbon. In this way we explain the presence of carbon in the bodies of the inhabitants of the vegetable kingdom. The vegetables being eaten by the animals go to make up their bodies. Hence we see that

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all the organic substances met with here, whether of animal or vegetable origin, contain carbon as one of their constituent elements.

All the substances, firewood, drugs, fruits, sugar and butter that are used in the performance of Homa are of organic origin and contain carbon. We have said before that the combustion of carbon is attended with the production of carbonic acid. So when we light the Agnihotra fire and put organic oblations in it, we are producing this gas.

Now what is this gas? Let us see what are its properties. It is colourless. It is odourless. It suffocates. It extinguishes fire, if we try to burn the latter in it. Will it not then in the same way extinguish the spark of life that animates the living world, for are not the two things so closely allied? Surely it will and it does. Thus when we perform Homa, we produce this dangerous gas. Our efforts for getting purer air result in making it poisonous. Homa instead of being in any way useful proves to be distinctly harmful. It is a thing not to be encouraged, but serious efforts should be made to get rid of this obnoxious relic of our forefathers.

It is thus that the objection is often raised against the performance of Homa. But, as we shall see, it is based more or less upon hasty judgement and insufficient data. In this article we do not mean to defend the practice of Homa, for that is a task for abler hands to perform, but our aim is simply to show the invalidity of this particular objection. It is time now that critics who denounce Homa on this ground changed their attitude and tried to produce something more substantial against the practice of Homa.

The easiest and the simplest way to answer the objection is to make an equally dogmatic statement. It is said that carbon dioxide is produced when we perform homa. It may or may not be produced, but can those who say it is, make the assertion on the strength of

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experimental evidence. It may be replied that analogy leads them to suspect that what they say is alright. But it must be remembered that when we take our stand on science, mere empiricism is a thing that does not count much. The next thing worthy of consideration is the question, supposing carbon dioxide is produced, is it produced in such enormous quantities as to prove fatal or say injurious to animal life? This has not been shown. From the stand-point of science, the position of those who object and those who defend is equally indefensible in this particular case. But this is not the way to arrive at truth, and we are ready to admit that the burden of scientific proof as to the efficacy of Home lies on those who defend this practice, and it is high time that serious and honest efforts were made to supyly this proof.

There is another way in which the objection may be answered. It is said that all organic substances when burnt produce carbon dioxide. We say that it is not so, all substances do not produce this gas. For instance, it has been demonstrated that when we burn sugar under suitable conditions of temperature etc., we get not carbon dioxide but formaldehyde. This substance is a very great antiseptic and even its direct application as produced from sugar has been shown to be destructive of certain kinds of disease—producing bacteria that were placed under its effect in the culture media. Again when we burn wood, we get not pure and simple carbon dioxide but a mixture of gases called wood gas. So without studying all the conditions, it is unscientific to say that on the performance of Homa we get only carbonic acid gas, for other things very useful from the sanitary point of view may also be produced.

There is yet another way in which we can meet the critics on their own ground. This is to admit that carbon dioxide is produced when we perform Homa and then to show that it instead of being harmful, as has been

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tacitly assumed, is useful. But before we show how it is so, let us see the role which this gas plays in the atmosphere. It is present here to the extent of ·03 per cent. *ie.*, three parts in one thousand. What is the source of this gas? Whatever it may be in the pre-geological ages, at present there are three great processes which throw off enormous quantities of this gas in the air, (*i*) respiration, (*ii*) combustion of coal, wood etc., and (*iii*) volcanic eruptions. By carefully performed experiments it has been found that a man breaths out 900 grams (nearly 2 lbs.) of this gas per day or about two tons in a life time of 70 years. The whole human race throws daily into the air 1,000,000 tons of this gas. In 1907 there were burnt 1080 million tons of coal, which have produced well over 3,400 millions tons of the gas *ie.*, at the rate of about 10,000,000 tons per day. But the greatest amount of this substance is thrown through the mouth of volcanoes, about which we can form no definite estimate. Since years past all these three agencies have been in active co-operation to increase the amount of carbon dioxide in the atmosphere, but no very appreciable change is noticed. What does it show? It clearly shows that there are certain other agents which counteract the effect of the former. First of these is the process of weathering, *ie.*, absorption of carbon dioxide by rocks and their transformation into carbonates. Hogbon has estimated that in the limestone and dolomite their exist at least 25,000 times as much carbon dioxide as is present in the atmosphere, *ie.*, the amount of carbon dioxide withdrawn in past times by the process of weathering and now stored up in rocks as corbonates exceeds 750 times the volume of the whole present atmosphere.

There is another process which also uses up carbon dioxide and that, as we have already seen, is the vegetative growth. In all vegetables we see a rich vegetable colour. This is due to a substance called "chlorophyll"

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whose exact nature as yet we do not understand. In the presence of solar rays this has the power to decompose carbon dioxide of the atmosphere retaining carbon for the plant and giving off oxygen to the air.

In this connection oceans may also be mentioned. They too absorb a considerable part of this gas.

The question may naturally be asked, do these sources of income and expenditure balance each other? Even if they do so at present, which supposition too is not correct, the increasing amount of coal that we are consuming in our industries is sure to disturb the equilibrium in future. Thus the amount of carbonic acid in the atmosphere must increase with the time. But how this increase will affect us is the next question.

We have seen that our atmosphere contains only .03 percent of this gas. Arrhenius has calculated that if the atmosphere were to be deprived of all its corbonic acid, the temperature of the earth's surface would fall by about 20°. This lowering of temperature would diminish the amount of water vapour in the atmosphere and would cause a further almost equally strong fall of temperature. These facts, so far as they go, demonstrate that comparitively unimportant variations in the composition of the air have a very great influence. If the quantity of the gas in the air should sink to one half its present percentage, the temperature would fall by about 4°; a dimunition to one quarter would reduce the temperature by 8°. On the other hand any doubling of the percentage of carbonic acid gas in the air would raise the temperature of the earth's surface by 4° and if the dioxide were increased fourfold, the temperature would rise by 8°. Further, a dimunition of the carbonic acid percentage would accentuate the temperature difference between the different portions of the earth, while an increase in this percentage would tend to equalize the temperature. The question whether any such

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temperature fluctuations have really been observed on the surface of the earth, the geologists answer in the affirmative and ascribe them to the variations in the amount of carbon dioxide. It is in this way that they explain the existence of the glacial and the warmer periods in the geological history of the planet.

Thus we see that the increase of carbon dioxide would tend to equalize the temperature difference between the different portions of the earth. But this will not be the only effect. It will also give us a more luxuriant vegetable growth. The Polish Botanist E. Godlewski showed as early as 1872, that there are certain plants which breathe carbon dioxide proportionately to the amount of this gas present in the atmosphere. But the limit is reached when the quantity rises up to 6–9% of atmospheric air. If, therefore, the percentage of carbon dioxide be doubled, the absorption of plants would also be doubled. But this would also cause an increase of temprature by 4°, so the vitality would increase in the ratio of 1 : 1.5, so that the doubling of carbon dioxide percentage would lead to an increase in the absorption of carbonic acid by the plants approximately in the ratio of 1 : 3. The same may be assumed to hold for the dependence of weathering upon the atmospheric percentage of carbon dioxide. An increase of carbon dioxide percentage to double its amount may hence be able to raise the intensity of vegetable life and the intensity of inorganic chemical reactions threefold. It is easy to understand, therefore, why in the Carboniferous epoch plant life flourished on such an immense scale. In all probability the percentage of carbon dioxide in the air was considerably higher than at present, and this, combined with the increased temperature thus produced caused the world to become a vast green house and produce those masses of vegetation whose remains to-day we use as coal. Arrhenius in an optimistic tone thus predicts the future:—

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"By the influence of the increasing percentage of the carbonic acid in the atmosphere, we may hope to enjoy ages with more equable and better climate, specially as regards the colder regions of the earth, ages when the earth will bring forth much more abundant crops than at present, for the benefit of rapidly propagating mankind."

And this is one of the objects, which according to the advocates of Homa, is aimed at through this *Yajna*. The mantra by which we light the sacred fire, clearly says that it is done so '**अन्नाद्याय**,' for the sake of plenty of vegetables. Again in the mantra '**ओ३म् अयन्त इध्म आत्मा जातवेदस्ते.....**' we have the word '**अन्नाद्यन**' expressing a similar wish.

Before finishing this article we may say a few words in reply to a possible objection which may be raised. It may be said that since the object to be attained through Homa is the abundant production of crops through carbonic acid, which is produced in more than sufficient quantity by the burning of coal in many an industrial process, what need for us to take extra trouble by performing Homa individually. However we need make no very serious efforts to meet this objection. In the first place abundant vegetable growth is not the only thing aimed at by Homa. Again the carbonic acid which is produced through factories has many a chance for proving harmful owing to its production *in very large quantities in one locality,* which would require very strong currents of air and winds to disseminate it uniformly in the atmospheric regions. Further again the cry is often raised now-a-days in scientific circles that we are very rapidly consuming our coal supplies and there is every liklihood of a coal famine in the near future. Thus it is clear that if we want to go on with our industries, we shall have to substitute something else for coal in order to get our power. There is only one thing which can supply this need and

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that is electricity. This means that the quantity of carbonic acid will begin to decrease after a certain period. Would it not then be advisable to make up the deficiency, in howsoever small a measure it be, by Homa? Again there are many countries which are mainly agricultural. There are no industries there to supply carbon dioxide. Then may not these adopt with advantage the use of Agnihotra on a large scale?

The Homa substances used in the morning Homa keep the air pure and wholesome till the next morning. While those burnt in the morning Homa keep the air pure till the evening and thereby promote health, strength and intellect.

The Atharva Veda.

Now, as M. Trillat finds sugar produces vapours of formic aldehyde, a powerful germicide, it is a pardonable claim on behalf of the wise men of the East that they prescribed the addition of sugar in the formations of the oblation offered to the fire, serving thereby the double purpose of adding to the sacrificial offering to the Deity and the destruction of harmful germs that infested their homes. That very large quantities of fuel wood were burnt daily in the *hom* where-ever it was easily procurable as in the forest homes of *Rishis*, is evident from the descriptions of an *Asram* that we read in old literature, *Pauranic* or poetic. In a very graphic account of a royal visit to a hermitage the poet dwells upon the fragrance of incense that was wafted by the wind and which agreebly affected the olfactory nerves of the visitors even when they were at a distance from the hermitage. The smoke too was visible from afar. The author of the poem in which the scene is depicted lived nearly two thousand years ago according to Indian tradition. European orientalists give him an antiquity of fifteen centuries at the least. (The Leader.)

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Radium and Radio-Activity.

V.

The Nature of Matter.

ASTRONOMICAL EVIDENCE.

Leaving terrestrial things for a while let us turn our attention to the starry heavens, for these shining denizens in space speak in unambiguous terms on the subject under discussion. The chemistry of the sun and the stars, which we may call chemical astronomy throws a good deal of light on the problem. Perhaps the phrase "chemistry of the sun and the stars" may appear ridiculous to those unacquainted with the subject. Can a chemist have the audacity to claim powers enabling him to examine substances million of miles away? Will he take wings and fly away to these scorching or cooling, shining spheres or taking the help of his brother-physicist will he invent a magnet to draw these bodies towards the earth? If he moves towards heavens, will he succeed in reaching his destination or like Trishanku of Pauranic Mythology remain suspended in space. No gentle reader! He will do nothing of the kind and yet succeed in analyzing the material of which these distant bodies are made up. We shall tell you how this is possible.

Spectroscope: its use.

There is an instrument known as spectroscope. It is used in connection with light. In its essentials it is extremely simple. The fundamental part of it consists of a glass prism. The light from the substance under examination, after being passed through a narrow slit is allowed to pass through this prism. On the screen placed on the other side we get a beautiful picture tinted with diversified hues. Everybody is familiar with that charming phenomenon know as the rainbow. How it thrills the heart of a Wordsworth. These very rainbow colours do we get, if a beam of sun light be passed through the prism of our spectroscope. Each of the seven colours that we get has a definite breadth and length. The breadth corresponding to each colour may be divided into a series of lines separated by definite spaces. Let us now replace the beam of solar light by that of any other light which is not white. Again we get the same array of colours, but this time certain lines

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in certain color bands are omitted, while other are visible as before. Such a series of definite lines is called a discontinuous or selective spectrum. Again let us take, say, phosphorus, burn it and examine the color band which this light gives in our spectroscope. We again get a selective spectrum but different from the one we have examined before. If phosphorus be now replaced by any other element say, sulphur, sodium etc., we shall get a spectrum quite differnt from all others. Since no two elements emit the same kind of light, no two of them give the same spectrum. Thus it is that this spectrum analysis is as sure a means of identifying elements as any other.

The utility of the spectroscope thus becomes quite intelligible. But we consider the fact that the spectroscope is able to detect even the millionth of a milligram of matter, our admiration for this piece of instrument knows no bounds. Yet this is not all. The most startling thing is yet to come. The range of influence of this instrument is far more extensive. All the different worlds owe allegience to it, for it is able to detect the nature of the forms of matter billions of miles away and can measure the velocities with which these forms of matter and so-called elements are moving about. Surely it is one of the greatest instruments ever devised by human intelligence.

Celestial Dissociation.

But let not our admiration for this handiwork of man's intelligence keep us away from the object of our search. We have said before that each element possesses a spectrum peculiar to it and it alone, and is thus capable of being identified whether it be ont his earth or in the stars 93,000,000 miles away. Now let us see whether by the help of spectrum analysis we are able to gain any further knowledge about the chief problem *ie.*, the dissociation of elements into something simpler. Is it possible to get the simpler forms of matter in the sun or the stars. The work done in elucidating this problem extends over the life time of Sir Norman Lockyer. Whatever knowledge of the subject we do possess, it is all the product of this giant intellect and of the mental activity some other indefatigable workers. The first task before him was to disallusionize the scientific mind of the idea that one element is capable of giving only one kind of spectrum. He showed that an element is capable of giving two or even three kinds of spectrum, according to the stage of temperature in which it exists. Thus (*a*) the temperature of the flame, (*b*) the temperature of

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the electric arc and (*c*) the vibrations due to an electric spark of very high potentials, will cause one and the same element to give 3 different spectra. But all the three spectra shall be characteristic of that and that element alone.

Let us take the case of the sun. The spectroscope shows that it contains iron. Further the spectrum corressponding to one part of the sun called "reversing layer" is different from that of the other part called the "chromosphere" which possesses a higher temperature. How to explain this difference. It is difficult to imagine any other cause than the remarkable fact that increasing temperature brings about the dissociation of elements into something simpler. Further the fact that the spectrum obtained from maximum sun spot period is different from that obtained from minimum sun-spot one shows clearly that the "increased energy at the maximum sun-spot period is adequate to break the iron and other well known substances into finer things." Again some of the iron lines in the sun show that the substance giving rise to them is in rapid motion, while others show that it is at rest. Now this up-rush and down-rush of incandescent gases in the sun can not be caused by iron vapour as *terrestrial iron*, for then it would affect the spectroscope equally. But since it is not so, we are justified in concluding that "we are not dealing with iron itself, but with primitive forms of matter contained in iron which are capable of withstanding the high temperature of the sun, after the iron observed as such has been broken up."

Similar studies tell us that magnesium in the sun occurs in the dissociated form, thus differing from the terrestrial metal. The case of calcium is still more interesting. It is found that calcium is broken down into at least two "sub-substances." In order to designate these "broken down" or dissociated elements the prefix *proto* is applied before their names. Thus we get proto-iron, proto-calcium etc.

What is true of the sun is true of the stars. Here in addition to the above proto metals we also meet with titanium, copper manganese, nickel, cobalt, vanadium and others in the proto condition. A very important proto element met with is proto-hydrogen, showing that even hydrogen, the lightest substance known in this world, remains no longer such when other planets are concerned.

From the study of Stellar phenomenon Sir Norman has come to a conclusion which we give in his own words. We have then to face the fact that on the dissociation hypothesis, as the metals which exist at the temperature of the arc are broken up into finer

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forms, which I have termed proto-metals, at the fourth stage of heat (that of the high tension spark) which gives us the enhanced spectrum, so the proto metals are themselves broken up at some temperature which we can not reach in our laboratories into other simpler gaseous forms, the clevite gases, oxygen, nitrogen and carbon being among them.

Does the story end here? No, there is a still higher stage, after the clevite gases have disappeared as the arc lines and enhanced lines did at the lower stage; the new form of hydrogen to which I have before called attention and which we may think of as "proto-hydrogen" makes its appearance. But there is already evidence that even this is not the end of the simplification brought about by the transcendental stellar temperatures we are now discussing.

Thus it would be perfectly clear that all these phenomena are fully explained if we accept this dissociation hypothesis. If we once reject it, all hopes of co-ordinating and harmonizing the results obtained along the different lines of work altogether disappear.

Inorganic Evolution.

By inorganic evolution we mean that these eighty-one or odd forms of elements as we know them upon this earth were not created as such, but have evolved out from some simpler and still simpler substance, back to some really simple element through infinite ages gone by. The governor of this inorganic evolution is temperature, the evolution resulting from a cooling down of temperature.

When a metallic rod, say of iron, is heated, it at first becomes red and then gradually white. On being examined spectroscopically, it gives only red colour when in its initial stages of heat *ie.*, when it is red hot, but as the temperature rises, orange and yellow portions of the spectrum make their appearance and finally at a white heat we have the whole visible spectra consisting of all the seven colours. With still higher temperature the spectrum extends beyond the violet into the ultra-violet region. These facts are best expressed by a law known as Kirchoff's law: The hotter a mass of matter, the further its spectrum extends into the uttra-violet.

Thus from a study of the spectrum of the stars we can have a knowledge of the temperature prevailing there. Basing his results on this very law Lockyer divided the stars into three groups:—

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CHEMICAL CONSTITUTION.

1. Gaseous stars.	Highest tempreature & longest spectrum.	Strong lines of helium family and faint enhanced lines.
2. Metallic stars.	Medium temperature & medium spectrum.	Feeble gas of helium family and strong enhanced lines.
3. Carbon stars.	Lowest temperature & s ortest spectrum.	No gas of helium family & strong are lines.

From this he concludes that the very hottest stars contain hydrogen, helium and asterium, the last named being a gas hitherto unknown on earth, in those of medium temperature gases are replaced by metals in a dissociated state corresponding to an electric spark of extremely high potentials and in stars of lowest temperature the gases almost disappear giving place to metals as they exist in the state produced by electric arc. This and the work of Professor Pickering, Mr. McClean and others led Lockyer to construct a temperature table of stars, which we give below in the order of descending temperature.

Hottest stars.

1. Two in Argo (Zeta Puppis and Gamma Argus).
2. Alnitam (Epsilon Orionis).

Stars of intermediate temprature.

3. Achernar.
4. Algol.
5. Markab.
6. ( )*
7. Serius.
8. Procyon.
9. Arcturus.

Stars of lowest temperature.

10. 19 Piscium.

Considering this star table from the hottest to the coldest in relation to the chemical constitution of the stars comprising it, the evolution of matter at once becomes clear:—

1. Argonian stars.
   Predominant:—Hydrogen and proto-hydrogen.
   Fainter:—Helium, proto magnesium, proto calcium, asterium.
2. Alnitamian stars.
   Predominant:—Hydrogen, helium, proto silicium.

*Signifies a "break in Strata."

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Fainter:—Asterium, proto hydrogen, proto magnesium, proto calcium, oxygen, nitrogen, carbon.

3. Achernian stars.
   Predominant:—Hydrogen, helium, asterium, oxygen, nitrogen, carbon.
   Fainter:—Proto-magnesium, proto calcium, proto silics, silicon.

4. Algolian stars.
   Predominant:—Hydrogen, proto-magnesium, proto calcium, helium, silicuim.
   Fainter:—Proto iron, asterium, carbon, prto titemium, proto copper, proto manganese, proto nickle.

5. Markabian stars.
   Predominant:—Hydrogen, proto calcuim, proto magnesium, silicium.
   Fainter:—Proto iron, helium, asterium, proto titanium, proto copper, proto manganese, proto nickle, proto chromium.

6. ( ).

7. Sirian stars.
   Predominant:—Hydrogen, proto calcium, proto magnesium, proto iron, silicium.
   Fainter:—The lines of other proto metals and the arc lines of iron, calcium and manganese.

8. Procyonian stars.
   Predominant:—Proto calcium, proto titanium, hydrogen, proto magnesium, proto iron and arc lines of copper, iron and manganese.
   Fainter:—The other proto metals and metals occuring in the sirian genus.

9. Arcturian stars.
   Predominant:—Proto calcium, arc lines of iron, copper and manganese, proto stroutium, hydrogen.
   Fainter:—Proto iron and proto titanium.

10. Piscian stars.
    Predominant:—Flutings of carbon.
    Fainter:—All lines of metallic elements.

From the above the following conclusions may be drawn:—

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1. Beginning with the hottest stars which are composed almost of hydrogen and dissociated hydrogen, we find that with dedecrease of temperature, the number of chemical elements increases, until in Arcturian serium we find almost as many elements as exist in our own sun. Now since a star has but few elements while it is hot and many when it is cold, the natural and reasonable explanation is that many have evolved from the few with the lowering of temperature.

2. The metallic elements appear first in the dissociated condition and afterwards in their normal form, thus strengthening the valadity of our explanation. For if with decrease of temperature the elements are evolved out of simpler substances, of course the dissociated forms would appear first.

3. As a general rule, the elements of lightest atomic weight appear first. This is quite in accordance with the dissociation hypothesis. We have reasons to believe that atmos are built up of nothing but corpuscles and these corpuscles would naturally form larger and larger aggregation as the temprature sinks. Further in the periodic law, we see that elements of the same family behave just as though the heavier atoms had evolved from the lighter.

Basing our conclusions on the above facts, we can not but accept inorganic evolution, extending over millions of years. Further Sir Lockyer showed that organic evolution is the last stage of inorganic evolution and we are akin to stars, but with this we have nothing to do.

That this conclusion has been generally accepted by all the noted scientists will become apparent from the views of some of them which we give below:—

Sir William Crookes remarked at the time:—

"Until some fact is shown to be unreconcileable with Mr. Lockyer's views, we consider ourselves perfectly justified in giving them our provisional adhesion as a working hypothesis to be constantly tested by reference to observed phenomena."

Said Sir William Roberts-Austen:—

" Mr. Lockyer has, however, since done far more, he has shown that the intense heat of the Sun carries the process of molecular simplification much further and if we compare the complicated spectra of the vapors of metals produced by the highest temperature available here with very simple spectra of the same metals as they exist

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in the hottest part of the sun's atmosphere, it is difficult to resist the conclusion that the atom of the chemist has itself been changed. My own belief is that these 'atoms' are changed, and that iron, as it exists in the sun, is not the vapour of iron as we know it upon earth."

Mr. Preston speaking on the bearing of these results writes thus:—

"We have, I think, reasonable hope that the time is fast approaching when intimate relations, if not identity, will be sure to exist between forms of matter which have heretofore been considered as quite distinct. Important spectroscopic information pointing in this same direction has been gleaned through a long series of observations by Sir William Lockyer, on the Spectra of fixed Stars, and on the different Spectra yeilded by the same substance at different tempratures. These observations lend some support to the idea, so long entertained merely as a Speculation, that all the various kinds of matter, all the various so called elements, may be built up in some way of the same fundamental substance."

Says Professor J. J. Thomson:—

"The explanation which seems to me to account in the most simple and straightforward Juanner for the fact is founded on a view of the crnstitution of the chemical elements which has been favourably entertained by many chemists, that the atoms of the different chemical elements are different aggregations of atoms of the same kind. In the form in which this hypothesis was enunciated by Prout, the atoms of different elements were hydrogen atoms; in this precise form the hypothesis is not tenable, but if we substitute for hydrogen some unknown primordial substance X, there is nothing known which is inconsistent with this hypothesis, which is one which has been recently supported by Sir Norman Lockyer. for reasons derived from the study of Steller spectra."

This gradual building up of physical complexes from similar particles is explained by J. J. Thomson by the association of electricity and this we shall now consider.

PHYSICAL EVIDENCE.

Thomson's electrical theory of the relation between the elements.

In our first article of the series we said something about Cathode rays. If in a vacuum tube, a current of electricity be passed, it is noticed that certain kind of rays issue out of the cathode *i. e.* negative pole and strike the opposite wall, where they produce phospho-

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rasence. As to the nature of the Cathode rays about the time of their discovery, Crookes, to quote Sir Oliver lodge, " hazarded the surmise—by one of those flashes of intuition which are sometimes vouchsafed to a discoverer, but are often ridiculed by the representatives of orthodox science at the time, that he had obtained matter in a fourth state and even that he had got in his tube something equivalent to what was contemplated in the Corpuscular"theory of light." Surely it was a momentous question to decide the nature of the influence coming out of the cathode and producing phosphorasence on striking against the walls of the vacuum tube. The first thing to be noticed about them was the fact that they are deflected by a magnet in the same direction as would be expected for negatively charged particles projected from the Cathode. From this Crookes concluded that these rays were negatively charged particles of matter.

But this was not sufficient. The true nature of these rays remained a matter of dispute for about twenty years, until it was finally and successfully settled by J. J. Thomson in 1897. It was discovered that the phosphorascence in the end of the tube was caused by something coming from the neighbourhood of the Cathode for a solid placed between the cathode and the end of the tube casts a shadow on the other side. Again the material nature of the rays was shown by the mechanical work they are able to perform. If two rails be arranged inside the tube and a small carraige placeed over them, it will be observed that the cathode rays make the carraige move from one end of the tube to the other.

Breaking of the atom.

Being convinced of the rays being streams of charged particles, the next question was to determine, the velocity with which they move; the charge which they carry ; and the mass which they possess. We shall not enter into a description of the methods adopted for obtaining these results. They fall within the sphere of higher physics and higher mathematics and hence can be of no interest to the general reader. Hence we shall content ourselves by presenting the results only. J. J. Thomson from a brilliant series of investigations came to the conclusion that these particles possess a velocity ranging between 10,000 to 90,000 miles per second and the ratio charge over mass e/m for these particles is 1×10^7. In order to get a value for the mass of these particles it is necessary to compare this value of e/m with the value obtained for the hydrogen ion which is 1×10^4.

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Thomson found that the value of e for the hydrogen ion and the cathode particle is the same. Hence the difference must be in their masses. From this, it follows directly that the mass of the hydrogen ion is about one thousand times that of the negative of gaseous ion, such as exists in the cathode rays. What a startling discovery! The indivisible atom of the chemist has been split up into not, one, two or three but no less than one thousand parts. Impossible has become possible. What was regarded as the ultimate unit of matter remains such no longer. This offers a unique illustration of Newton's remarks that we are but engaged in picking up the pebbles while the great ocean of knowledge still lies unexplored before us.

Electron: the Common Constituent of all Matter.

But the most wonderful thing is still to come. It is found that the ratio e/m is the same for negative ions of all the gases. J. J. Thomson showed that the negative ion set free at low pressure by an incandescent carbon filament and also the negative ion liberated from a zinc plate exposed to the action of ultra-violet light, had the same value of e/m as the ions produced in the vacuum tube and independent of the metal used as cathode. What these results would lead us to. Ponder, gentle reader, for a while over them and say do they not clearly and emphatically show that this ion which is split off from all the gases and metals regardless of their chemical nature is a common constituent of the atoms of all matter. This ultimate unit of matter of which all the atoms are composed, having a mass about 1000 times less or as more accurate determinations show 770 * times less than that of hydrogen atom and carry a unit of charge of negative electricity, Thomson called "corpuscle" while Jhonston Storry designated as "electron."

Are not the results marvellous in the extreme. In nature we observe Millions and Millions of object each different from the other. A chemist comes and says:—"No you are wrong here. There is not so much deversity in nature as you believe. Every object that you see, is but a compound formed from among 82 or odd ultimate forms of matter. Disillusion yourself and see the real truth." But now comes a physicist and says, "Brother chemist, you have been wrong in these regarding the material world as composed of eighty two forms of matter. This diversity of 82 as you talk about is to be seen nowhere. It is all one. Oneness is the law of the

* More recent investigations point towards this mass being still less—about two thousandsth times less than that of the hydrogen atom.

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universe. There is only one form of matter. Call it protyl, the primal matter or electricity whatever you like, but there is nothing but oneness."

Matter nothing but Electricity.

From the above mentioned results we conclude that corpuscle or electron is both material and electrical. The two chief characteristics of matter are mass and inertia. The first term is plain enough, the second we shall explain. Newton's first law of motion says:—No body has any power to change its state whether of rest or motion, unless some external force be applied; or in other words, if a body be at rest, it will continue to be in that state unless acted upon by some external force, or if it be in motion, it will keep moving in a straight line with uniform velocity, unless some external force be applied to stop it. Now anything which possesses both these properties, i. e., mass and inertia must be material. It was pointed out by Thomson in 1881, that inertia may itself be of electrical origin. Thus it was shown that a rapidly moving sphere, when charged, would have greater inertia than when uncharged. In order to determine any change in mass, it is necessary that the particles must have a very high velocity approaching that of light which is 186000 miles per second. The Problem was then to see whether there is any change in mass with change of velocity that can be experimentally demonstrated. The experiments of Kaufmann show that as velocity increases e/m becomes less. But since e the charge remains the same, irrespective of changes in velocity, it is the mass that is increasing. This shows that the mass of the particle increases with velocity *i. e.* at least a part of the mass is of electrical origin.

The question that next presents of itself is this:—If a part of the mass is of electrical origin, is it not possible that the whole of it be electrical. Thomson, from a brilliant series of investigations and resonings has come to the conclusion that it is highly probable that the whole of the mass of the corpuscle is of electrical origin. On this view electron may be defined as a unit charge of negative electricity, entirely disembodied from what we have hitherto regarded as matter, and is the ultimate unit of which all matter is composed. It is the fundamental unit of all different chemical elements, the atoms of which differ from each other in the number and arrangements of the electrons within the atom. Sir Oliver Lodge in his book 'Electrons' thus sums up the whole situation:—

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The most striking part of the whole is the explaination of matter in terms of electricity, the view that electricity is, after all, the fundamental substance and that what we have been accustomed to regard as an indivisible atom of matter is built up out of it, all atoms—atoms of all sorts of substances—are built up of the same thing. In fact the theoretical and proximate achievement of what philosophers have always sought after, viz., a unification of matter is offering itself to physical enquiry.

How startling the conclusion the modern science has led us to! To think that we eat electricity and drink electricity; we breathe electricity and we see electricity; we sleep on electricity and we bathe in electricity, in fact to think that we are surrounded on all sides by a huge ocean of electricity from which there is no escape, go wherever we may and do whatever we like, is staggering in the extreme. Yet this is what modern science would make us believe. It may be objected that it is all on the basis of a theory. Yes quite so. But it is not to be forgotten that experiments precede theory. It is on the basis of these that we make a generalization and call it a theory. Electron theory has also the same story to tell. There *is* something in the theory which makes it to explain so many things such as, static electricity, current electricity, magnetism, radiation of light, X-rays etc, inertia, mass, chemical action, the atomic matter and its peculiar properties and radio-activity etc. So far reaching it is that one simply wonders at its scope.

Radio-activity in the light of Electron Theory.

Let us see how it explains radio-activity. According to the theory certain vast assemblages of corpuscles comprising the heaviest atoms are relatively unstable. As their kinetic energy decreases, the aggregation explodes and the corpuscles re-arrange themselves, projecting meanwhile some of the products of the rearrangement. This is the phenomenon of radio-activity.

The alpha rays from a radio-active body are simplified arrangements of corpuscles resulting from the explosion. They are positively electrified sub-atoms.

The beta rays are free corpuscles let loose from the explosion.

The gamma rays are probably identical in nature with X-rays and are probably pulses in ethere set up during the explosion of the atom.

Limitations of the Electron Theory.

We have seen something of the scope of the theory. It is in fact, we may say, its all comprehensiveness that makes one doubt its "omnipotence." Yet we must not forget that it is after all

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a theory. The value of a theory increases directly with the number of facts it is able to explain. Then does our theory explains all the known phenomena? The answer is in the negative. For instance, it offers no explanation of positive electricity. It does not tell us whether any such thing exists in this universe or not. If it does, then what is the relation between negative and positive electricity? Is negative electricity the real—what we have hithorto called—Matter? Is positive electricity a mere hypothetical creation or is it something real, tangible and substantial. Electronic theory gives no answer to all this. The nature of positive electricity is a mystery to day.

Again, what is gravitation? If our earth is wholly and solely made up of negative electricity, then pray what is gravitation? We look in vain for an answer from our theory.

Still again, what is life and what is soul? Our theory is totally powerless here. Surely, the scientific mind, the greatest dreamer, believing as it is that things are not what they seem, more then any other, "In wandering mazes lost" proclaims loudly the limitations of the human intellect, when compared with that of the Creator of the universe.

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India's Daughters

"It is universally admitted" says Colonel Tod, "that there is no better criterion of the refinement of a nation than the condition of the fair sex therein." According to this the high position which the Indian women had always occupied in ancient times proves a highly advanced state of India. The Vedas and the Shastras assign to women a peculiarly privileged position which the women of other countries could never even dream of. They were given the fullest possible scope for the exercise of their peculiar gifts. Their feminine character and nature received the freest development and their culture and education were such as to enable them to fulfil their superior duty of giving to the world a race of men yet unparalleled in intellect, physique, and morals in the whole world.

But what a contrast we see between the Indian women of the past and those of the present! The present daughters of India have not only forfeited their old glorious position but have been degraded to the meanest possible position, disgraceful for them, disgraceful for society and a blot on the bright face of mother India.

The bees which had formerly been nourished with the ichor of mad elephants' temples, whose limbs were fragrant with the pollen of the blooming lotuses, are now passing their time in Nima and Ark flowers. The swans, which had been brought up with the pollen of the golden lotuses, blooming in the midst of the ripple of the crystal-watered Ganges, are now, by a strange irony of fate, keeping to the water infringed with weeds. And what is all this degradation due to? The answer is not far to seek. It is certainly the lack of moral excellence, the iniquity and sin of India's children. When the time of destruction and ruin approaches, men lose their wit, and all the acts they do only lead them a step or two nearer their destruction.

After the time of the Mahabharata, when many a learned prince and king, Rishi and Maharshi, philosopher and theologian was either killed in the great war or died of old age, the learning and the Vedic wisdom began to decline. Men fell a prey to reciprocal jealousies, bitter hatred, vanity and ignorance. Might became right, and the impregnable fortress of Indian organization being attacked politically, socially and religiously by foreign invaders and

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internal feuds was shattered to pieces. Brahmanas lost their purity and wisdom, Kshattryas lost their kingly authority and prowess, and the Vaishyas their capability for trade and commerce.

But worst of all was the effect of all this upon Indian women. Want of protection, corruption among the Brahmanas and the Kshattryas, outrages of the Mohammedan invaders, want of moral, mental and physical training, all these united to throw them down from their high position in society. They sank into ignorance. Their intellect became dull and weak for want of scope for its exercise. But happily for them they still preserved the purity of character, love, respect for and fidelity to their husbands and obedience to their elders, and above all their faith in God and love of religiousness though the conception of the last two has been rather vague and varied. They even in their degraded condition have preserved the relics of their former greatness and certain qualities which their well-do and so-called highly-civilized sisters of the west still lack. The condition of women during these dark ages was very sad and pitiable.

Then comes the renaissance—a sudden awakening, and what do we see? Youngmen yearning after knowledge, busily engaged in the betterment of our dear India and her daughters.

But sad to say that since they have received their training after the western fashion many of them have become western in thoughts and ideas—in their way of living and their habits—and though sincerely patriotic in their dealings with their country have not been able to escape from the evils of the west. They have a mania for despising everything old calling it irrational or old-fashioned. Their one aim and end in life seems to be to make India socially a downright western country, another England or France. To fulfil this end they have found it essential to draw women to their side, which at the outset of their awakening they had thought, perhaps, they could dispense with by replacing them with those of the west. So they have turned their attention more or less towards the women's so-called education, and even have been successful in producing many a lady graduate, doctor, and reformer.

Pitiful was the condition of women during the dark period beginning with the great War of the Mahabharat and ending with the advent of the British in India, but more pitiable is their condition now, when the education they receive is nothing but false—an outward show to which no inward substance corresponds.

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It must be remembered that getting a B. A. or M. A. degree or acquring a smattering of one or two languages does not constitute real knowledge.

Then again we must not allow it to slip out of our minds that education is a means to an end and not an end in itself. Let no woman be educated for mere greed of fame, fear of shame, or acquisition of money, through from these lowest motives the scale may rise to the most noble and precious actions of which human nature is capable—the truly golden and priceless deeds, that are jewels of history and the salt of life.

There should always be the sense of duty, love of religion, of country, of kindred, and moral excellence in all forms of human greatness. A woman may be very brilliant, clever and broad-minded and with all this if she is not good, she is a very contemptible person, and even the sublime height which she seems to have reached in her most splendid achievements in only a brilliant sort of badness.

"Nothing" says Hartleys "can easily exceed the vain-glory, self-conceit, arrogance, emulation and envy that are to be found in the eminent professors of the sciences, mathematics, natural philosophy and even divinity itself." This is quite true. Moral nature like all other things, if it is to grow into any kind of excellence, requires special training. The unselfish part of human nature, if left uncultivated, will be reduced to meagre vitality and stunted proportions. As our passions by their very nature, like the winds, are not easy to control and our actions are the out-come of our passions, the result is that moral excellence is in no case an easy thing to acquire, and in its highest forms is the most arduous and as such the most noble achievement of a thoroughly accomplished human being.

It is this moral greatness that still keeps up the memory of the ancient daughters of India—Sita, Savitri, Gargi and Maitrayee etc. Let the present day Indian women follow the examples of these, taking warning from the flaring beacons of the rock—the civilized women of ancient Greek and Rome. Let it be impressed upon the minds of Indian women that ancient Indian literature, Indian legends, Aryan social customs and manners are, generally speaking, far more superior to those of the West. Much good can be found in India if only we view matters with unprejudiced, devout minds. Let everyone, therefore, who does not want to make his or her life a failure and a shipwreck engrave upon his or her mind the great truth of Maharaj Manu:—

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वेदास्त्यागश्च यज्ञाश्च नियमांसि तपांसि च।
न विप्रदुष्टभावस्य सिद्धिं गच्छन्ति कार्हचित्॥

"A man of low character can never succeed in acquiring a knowledge of the Vedas, in keeping up his vows of celibacy, truthfulness etc., nor in fulfilling his duties towards man and God, keeping control over his passions and desires, being steadfast in his devotion to truth and righteousness and performing good works. It is moral excellence alone which can truly save us. It is the "one thing needful."

Let it therefore, be the first and foremost care of every parent, brother and husband to give his daughter, sister or wife a good moral training and let the languages be used as the means to that end and not as an end in themselves as is now the case with shallow—sounding persons. It is then and then only that India's daughters can be worthy of that name.

He is Vishnu, she is Shri. She is language, he is thought. She is prudence, he is law. He is reason, she is sense. She is duty, he is right. He is author, she is work. He is patience, she is peace. He is will, and she is wish. He is pity, she is gift. He is chant and she is note. She is fuel, he is fire. She is glory, he is sun. She is orbs, he is space. She is motion, he is wind. He is ocean, she is shore. He is owner, she is wealth. He is battle, she is might. He is lamp, and she is light. He is day, and she is night. He is tree, and she is vine. He is music, she is words. He is justice, she is ruth. He is channel, she is stream. He is flag-staff, she is flag. She is beauty, he is strength. She is body, he is soul. *(The Vishnu Bhagavata).*

Both are beginningless, endless, indefinable by precise marks, eternal: both are all-prevading and inseparable. But the one *e.i.*, Prakrti, is unconscious, possessed of the three gunas, germnatured, ever-unfolding and in folding,[3] (backwards and forwards, evolving and involving, expanding and and contracting), and never resting in the centre, but always moving between the two extremes, the pairs of opposites (making all the richness of the world and world-experience).

(The Bhava Prakasha)

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THE ANCIENT AND MODERN EDUCATIONAL SYSTEMS OF INDIA.

VI.

THE GURUKULA AT HARDWAR.

(A communication from Myron H. Phelps Esqr. B. A. LL. B. of New York.)

Since my recent letter discussing the examination system which obtains in Indian universities was written, a protest against the system has been lodged by two of the most eminent physicians in India on the ground that it entails strains and hardships dangerous to the health of the students, whose stamina is already impaired by prevalent conditions of life, which, I think, may well be quoted here. At a meeting held in the Calcutta University Institute on the 16th instant for discussing the question of student health, the principal speakers were Dr. Inder Madhab Mullik, M. A. M. D., and Dr. G. A. D. Harris, Inspector-General of Civil Hospitals. It was said by the former that "the rigours of the examination were too great." It was preposterous that students failing in one subject only had to appear in all the subjects again the next year. The subject in which the student got plucked should be the only subject for re-examination. Examinations should be in parts. Dr. Harris said that "he was at one with Dr. Mullik as regards examinations. Examinations should be in fewer subjects, should be piece by piece, and should be held more often. Perhaps his voice would be a cry in the wilderness, but he hoped something would be done. In Cambridge subjects were taken up in parts. It was very hard to wait for a year. He advocated more frequent examinations. Why should students be examined a second time in subjects in which they had passed? Medical students were not trained in that way."

These words emanate from so authoritative a source that they can hardly escape the consideration of those responsible for the present educational system.

From what has been said in previous letters it will be readily seen why it is impossible for the Gurukula to invite Government

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co-operation, that is, to submit to Government supervision as an aided school. This would mean, in the first place, that Sanskrit must be displaced in favour of English, as the first language of the school. Thereby the primary object of the instruction which is to secure for the students a thorough grounding in Sanskrit and Vedic learning, would be given a secondary place. The general character of the institution in respect to the instruction which it imparts would be reversed. In the next place, the use of Hindi as a medium of instruction is a feature of the school regarded as essential to sound education, but which Government rules for aided schools would not permit. Thirdly, the school to a large extent uses its own text-books, which are found essential to its work and which the regular system would exclude in favour of standard text-books. Finally, were the school recognised, the courses of study in the work of the institution would necessarily be subject to the usual University examinations, which, for the reasons stated above, are considered destructive of good educationai results.

It ought, therefore, to cause no surprise, and shou.d be no ground for suspicion that that the school does not seek recognition or aid from the Government. Its aims and methods are so radically different from those which govern the regular educational system that it cannot do otherwise than stand alone.

Nevertheless, since its object is one which all good men approve, since its methods are unexceptionable, and since it does not draw upon the resources of the State, it would seem that it ought to have the encouragement and approval of the Government. These, however, it is said that it does not receive, and I have myself had occasion to observe that it is regarded with suspicion.

The complaint is also made that the Government is not open with the Gurukula. Officials assure the management, it is said, that no fault is found with it, that there is nothing against it, while from other sources reports constantly come to their ears that men high in authority speak of the institution as a breeder of anarchy and a source of danger to the State.

It is not easy to imagine how the Government can have got an impression which should justify this attitute of disapproval of the Gurukula. I have heard many discussions of the subject. In them I have been reminded that the Arya Samaj has many bitter enemies. In its activities is found the the only instance of an agres-

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sive and propagandising spirit furnished by the religion of India within the memory of man; and other sects, particularly Christians and Mahomedans, keenly resent this intrusion upon what they had come to regard as a close and private monopoly of their own. It is believed that misrepresentations of the institution have been made to the Government, by both Mahomedans and by Christian Missionaries. The latter particularly, having ready access to those in authority, are credited on grounds more substantial than mere suspicion, it is said, with a good deal of responsibility for the false impression. I have myself known of Christian missionary statements being quoted as authority by a Government official against both the Gurukula and the Arya Samaj, which statements I am satisfied were outrageous slanders. Then there are many Mahomedans in the detective service, and it would be doing a violence to our knowledge of the characteristics of human nature to believe that their reports can be unbiassed. Some light was thrown on the character of these reports by a district official, who visited the Gurukula some little time ago, and talked freely with the staff. He said that he had been told that the school was only a blind and that more of the time was spent there in physical exercises and military drill; but he only said this after examining the muscles of some of the boys and so satisfying himself that their development was not abnormal.

Another instance of the ease with which unfounded reports find acceptance as truth to the prejudice of this institution was brought to my notice by the following statement, made to me by an English official who, from his position, might have been expected to have exact information on the subject. The statement was that Ajit Singh had been allowed to make repeated visits to the Gurukula. I carefully investigated this statement, and found that Ajit Singh has only visited the Gurukula once, and that on the public occasion of an anniversary celebration, when many thousands of visitors came there; that at this time he attempted to speak but was promptly required to leave the Gurukula premises. That this version of the matter is accurate is beyond question, as it has been confirmed to me both by the management of the Gurukula and the Government authority, which is conclusive on the point.

It is undoubtedly difficult for those whose training has been in the "practical" and materialistic atmosphere of the West to believe that rational men should in this modern age introduce and

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insist upon asceticism of life, or should be willing to spend this immense amount of effort and energy having in view merely spiritual and ideal ends. It seems to them that there must be some tangible, material aim, and the only such aim they are able to conceive is preparation for effective resistence to the Government.

This view is not unnatural, but it arises from the fundamental error in the current Western conception of Indian character—or I may say that it marks the difficulty which seems to make it impossible for the Western mind to understand the Indian. We in the West are accustomed to regard material considerations as primary—not only as primary but as the only considerations which need be taken into account in so-called practical affairs; while the Indian, when his higher nature has been once awakened, wholly reverses this mental attitude and is quite capable of pursuing the spiritual and the unseen utterly with regard to the claims upon him of the material considerations of life. That this should be the case in actual life in this modern and materialistic age seems at first sight to us of the West actually to surpass belief; but that it is absolutely the case is true beyond the shadow of a doubt, and this is a fact which must be kept constantly in mind when endeavouring to understand Indian motive and action. Not but that there are men in the West capable of just as great acts of renunciation in the cause of religion as any in India, but such men are so few that they are not considered, while that disposition is characteristic of India.

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MY CRITICS.

I had written a few articles which were published in different numbers of the *Muslim Review* of Allahabad. I am not at all accustomed to writing to periodicals for before I wrote these articles I had not contributed any article to any monthly.

The book of my friend Mr. Ganga Parshad M. A., his presentation of the same to me and the general atmosphere of the place where my friend Mr. Ganga Parshad and I were posted accidentally gave rise to my articles.

Three or four of my articles deal exclusively with Mr. Ganga Parshad's book entitled "the Fountain-head of Religion." The remaining three are more general.

My articles were primarily addressed to my friend Mr. Ganga Parshad. But it appears that they have caused quite a stir in the world of our Arya friends.

Mr. Ganga Parshad told me several times that he received a large number of letters from friends and acquaintances urging him to reply to these articles.

I thank my Arya friends most heartily for the keen interest with which they have followed my articles. This speaks well for the life and energy that is in them; on the possession of which they are to be congratulated.

Out of my seven articles three have up to now been replied to one entitled "The Interpretation of the Vedas" by Pandit Ghasi Ram M. A. LL. B. in the Asadh No. of the Vedic Magazine.

The other two entitled respectively "Is the Universe Created out of Something" and" The Theory of Creation" have been replied to by my friend Mr. Ganga Prashad in the Kuar and Kartick Nos. of the Vedic Magazine.

These few lines are not meant as a reply to my critics. That I postpone to some future occasion when I see that there is any demand that my critics should be replied to.

So far I am of opinion that the points raised in my articles have not been successfully controverted.

My learned critic Pandit Ghasi Ram has not been able to refute a single point of my article "The Interpretation of the Vedas."

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At the close of his article Pandit Ghasi Ram reads me a lesson on charity and good will.

I may be permitted to remark in this connection that Pandit Ghasi Ram at least has not set me a very good example of charity and good will. He has indulged in several personalities in the space of a single article while in all my seven articles the reader would hardly find a single personal attack.

At one place in his article Pandit Ghasi Ram says:- "Mr. A Lover of Truth" has got the knack of arriving at false conclusions and that *he never blunders into a right conclusion.*"

If this be so, Pandit Ghasi Ram has certainly wasted ink and paper, his time and brains in writing an article of 20 or 22 pages in reply to mine of 10 or 12 pages.

My esteemed friend Mr. G. P. has criticised my two articles in a more reasonable spirit and I am ready to meet him in the fair field of controversy.

At least one of his criticisms, namely, that on my argument from "change" is very fine and very ingenious and I fully appreciate its force.

The rest of his criticism appears to me to be based either on a want of proper appreciation of the full force of my arguments or on an intentional misunderstanding of my position.

Specially his criticism of my article entitled "Is the Universe Created out of Some Thing" appears to me quite unconvincing. I feel grave doubts whether his criticism of this article of mine proceeds from real conviction or merely from a desire to satisfy the demand of his Arya friends because they expected some sort of reply from him.

I had a talk with him in respect of one of my arguments contained in this article, namely, "since this idea (*i* the idea of creation ex nihilo) has been so persistently present everywhere and since all time the idea must represent *a fact, a reality*, and not *a myth, a fiction*"

He had offered the same criticism upon it which he has done in his article in the Vedic Magazine, namely, that the word 'create' does not necessarily mean creation out of nothing and that there is no such word in Sanskrit. I had told him in reply that my argument was not based upon the existence of the word in every language but upon the existence of the idea among every people and in all climes and ages; that if it was fact that the idea of "creation out

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of nothing" had been present everywhere in all times and ages my argument held good otherwise not. Mr. G. P. had admitted the force of my contention and had said that in the circumstances he had no answer to make to my argument.

It is, therefore, a little strange to find that in his article my friend quietly ignores the main argument and tries to make his readers believe that he has refuted my argument when he has not even touched any essential portion of it.

He says:—"when the major premiss (that a word connoting the idea of creation out of nothing has existed in all climes and ages and in languages all the world over) turns out to be a false assumption, the conclusion (that the idea must represent a fact a reality) falls to the ground."

But this is not my major premiss though I can prove if need be that the assertion (that words connoting the idea of creation out of nothing have existed in languages all the world over) is not a false assumption.

My major premiss, minor premess, conclusion and all are contained in *one sentence*, namely, since this idea (in idea of creation out of nothing) has been so presistently present everywhere and since all time the idea must represent a fact a reality and not a myth a fiction."

It must be apparent to everyone that the above sentence constitutes a complete syllogism the componant parts of which are these:—

Every idea which is persistently present everywhere and since all time must represent a fact a reality. } Major premiss.

This idea of creation out of nothing has been persistently present everywhere and since all time. } Minor premiss.

This idea of creation out of nothing must therefore represent a fact a reality and not a myth a fiction. } Conclusion.

My argument would have been refuted, if it had been shown that there was such and such a time when this idea was non-existent.

This has not been done nor even attempted and therefore my argument stands.

Mr. G. P.'s own assertions prove the existence of the idea. He says:—"Whenever Sanskrit philosophers speak of the idea in order to refute or discuss they have to employ a phrase or a sentence instead of a word. For example Kapila in his Sankhya Sutra discribes it as production of a thing out of nothing? In Gita it is spoken of as "existence out of what is non-existent."

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It is clear that on Mr. G. P.'s own showing, the idea exists in Kapila, in Gita and among Sanskrit philosophers and therefore my argument holds.

It is immaterial for the purposes of my argument whether Sanskrit philosophers represent the idea by a word or by a phrase.

But my object in writing this paper is not to refute the arguments of Mr. G. P. or of Mr. Ghasi Ram; it is only to make a request to the readers the Vedic Magazine.

If the readers of the Vedic Magazine be really interested in such topics they will do me the goodness to read my articles in the original and I hope they will find that my articles, by themselves, answer my critics fully.

If after the perusal of my articles they still consider that a reply is called for from me, they will find me only too ready to satisfy their demand.

I hope that the editor of the Vedic Magazine will do me the kindness of publishing these few lines in his valuable monthly.

A Lover of Truth.

A perusal of the other law books of the Hindoos would convince the reader, that the Hindoo lawgivers had closely studied the principles of jurisprudence. These works regulate the forms of administering justice; as, the qualifications of a judge; the assistants he should employ; the hours proper for sitting on the seat of justice; whose evidence must first be heard; for whom he may appoint council to plead; what kind of sureties may be admitted; how a judge may examine a cause by ordeal, and by what kind of ordeal, where neither oral nor written evidence remain; whether two or more persons may institute processes of law against one person at the same time in one court; in what way a judge is to decide upon a cause, and in what words he must pronounce sentence.

(*William Ward*).

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The Five Daily Duties.

I

Introduction.

Man is always seeking after happiness but seldom succeeds in attaining it. In a backward state of society man is satisfied with the pursuit of gross pleasures, but with the development of his mental faculties, the objects of his pleasure also become more and more refined. Some find pleasure in total abstinence from work, others again find it in ceaseless activity and feel most miserable when they have nothing to do. To some ignorance is bliss, to others it is the most miserable state of existence that they could imagine. Some find pleasure in imposing their authority upon others, while others again would not care to exist except in an atmosphere of absolute freedom,-freedom not only for themselves but for all.

So far as ignorance and knowledge, despotism and freedom are concerned, there can be no two opinions as to which to choose. The one is darkness, while the other is light. Similarly despotism of whatever type it may be, is in its essence, retrogression. To fear nobody is one of the most desired states of existence. So teach the Vedas:

अभयं नः करत्यन्तरिक्षमभयंद्यावापृथिवीउभेइमे ।
अभयं पश्चादभयं पुरस्ता दुत्तरादधरादभयंनो अस्तु ॥
अभयं मित्रादभयममित्रादभयं ज्ञातादभयं परोक्षात् ।
अभयं नक्तमभयं दिवानः सर्वा आशाममित्रं भवन्तु ॥
अथर्व कां० १९ सू० १५ मं० ५ । ६ ॥

"May I become absolutely fearless, may this Earth and firmament as well as the celestial globes combine to make me fearless. May I entertain no fear whatever, from above and from below; from objects in my front and those behind me. May I have no fear of injury from friends and foes, from causes known to me those which I cannot foresee. May I always be dauntless by day and by night, and may all quarters befriend me."

There can be no happiness while there is fear, and similarly there can be no happiness until you have not secured absolute peace,

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not only for yourself, but for the whole world. It is not always that you can rise higher than your surroundings. Therefore you must try to secure peace for everybody, high and low, man and woman, the animal and the vegitable kingdom. This is the lesson which is taught in the following *Veda Mantra*,

द्यौः शान्ति रन्तरिक्षꣳ शान्ति पृथिवी शान्तिरापः शान्ति रोषधयः शान्तिः । वनस्पतयः शान्तिर्विश्वेदेवाः शान्ति ब्रह्म-शान्ति सर्वꣳशान्तिः शान्तिरेवशान्तिःसामाशान्ति रेधि ॥ यजु० अ० ३६ मं० १७ ॥

May I attain to that peace of mind which can only be attained when there is universal peace, when the celestial globes are at peace (i.e. in harmony), so is the firmament and so are the earth and waters, and the plants and the vegitable kingdom in general, where all the elements (देवाः) and the great minds (देवाः) of the world are at peace, when this stupendous universe is all peace and nothing but peace."

This ideal state looks more a Utopian idea than one which is within the bounds of practicability. But none the less it is a true idea. No human progress is possible if we are met with obstruction at every step from the elements or our other surroundings. Have we not had ample illustration of the fact that when the intellects of the world are at times deranged, whether they be the intellects of monarchs or republican heads, religious preachers or political propagandists, its waves go forth to all the world according to the strength of the disturbance at the centre ? So long as man trampled upon the rights of man, so long as every one, man, woman, and child, is not allowed the free exercise of his rights and the free dovelopment of his faculties, and so long as man is partial to his own species, kicking down and sending out of existence those that do not fit in with his whims, so long the attainment of universal peace must remain a mere dream. But man is steadily marching towards his goal. One portion of humanity may go down and another may go up for a while, but the march of humanity in general must be a forward one, and, if we desire that the progress should be faster, every one living on the face of this globe must seek and try not only for his own advancement, but the advancement of all creatures in this world, for does not the Vedic mantra teach us that you cannot have peace for your-

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self, unless there is universal peace and harmony. The progress of humanity is like that of a family, consisting of men, women, and children, proceeding on foot to a certain destination. However fast a particular member of the company may be, his speed cannot but affected by that of its slowest member. Therefore it becomes the pious duty of all to try and uplift each member of this great universe in every way. The Vedas teach us that if we allow our course of conduct to be dominated by certain motives, we shall, of course, attain the objects for which we are striving; but we cannot attain thereby the *summum bonum* of existence. It is only by a proper discharge of our duties for their own sake and the performance of acts enjoined by the Vedas without the desire to seek a corresponding reward for them, that we can attain to true happiness. Compare the following Vedic Mantra:

कुर्व्वन्नेवेह कर्म्माणि जिजीविषेच्छतꣳ समाः ।

एवंत्वयिनान्यथेतोऽस्तिनकर्म्मलिप्यते नरे ॥ यजु० अ०४०म०२

Among the acts enjoined by the Vedas the most important are those that are designated the Five Daily Duties (पञ्चमहायज्ञः). Ours is really a great family. God is the Universal Father and all the human souls and all species of creature in this world are brethren. Man has really no right to confine his brotherhood to his own species alone. This being so, the five daily duties must necessarily be a round of duties to the various members of this great family. We have our duty towards God (ब्रह्म यज्ञः) in which we have to thank Him for his numerous acts of mercy and benevolence towards us. So we have our duty to our own kind. It is for the universal welfare that the great minds of this world who are seeking after truth in one way or another or those who have been our benefactors, the Pitris (including one's own parents) should not be required to waste any of their precious time with thoughts of looking out for their bread This is a duty cast upon society and is called Pitri-Yajyan (पितृ यज्ञ). Similarly the maintenance of those who have abandoned their own pleasures and have made it their business to proclaim the truth to the world by going about from place to place, and who have devoted their lives to the service and uplifting of humanity, is a charge on society in general. This is called Atithi Yajyan (अतिथि यज्ञः). But if you want to attain the highest state of existence, you owe a duty to the animal kind also. You have no

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right to devote your wealth and earnings solely to your own comforts and enjoyments. You must share it, not merely with that portion of humanity that is your benefactor, but should also give out of it to those of your kind from whom you can expect no return e. g. the blind and the decrepit. And not only to your own kind but to the animal kind too. This is called Bhut Yajyan or Bali Vaishwa Deva Yajyan (**भूत यज्ञ अथवा वलि वैश्वदेव**) But our family comprises the elements also that have the same first cause as their creator and which are so necessary for existence. The earth on which we live should always be kept clean. The same with the air. There is no doubt that God has appointed his own agencies to purify the atmosphere and the other elements. But man crowds together into towns and cities, some times in enormous numbers and he is every moment defiling the air, the water, the earth and the other *devas*. The Vedas, therefore enjoy that man must burn odoriferous, disenfectant, and antiseptic substances (e. g. clarified butter, sugar, sesamum seeds &c.) every morning and evening so as to some extent purify the atmosphere surrounding man's unnatural abode, which in towns is always charged with foul matter. This is called Deva Yajyan or Agnihotra **देवयज्ञ अथवा अग्निहोत्र** one of the objects of which is to teach a spirit of self-sacrifice and to bring home to one's mind the fact that so far as his earthly belongings are concerned, he is merely a trustee on behalf of God's creatures in general. This completes the list of man's daily duties. We shall now deal with each in greater detail.

I. BRAHMA YAJYAN.

This expression is made up of two words *Brahma* which means *God* or the *Vedas*, and Yajyan **(यज— (1) देवापूजा, (2) सङ्गति करण, (3) दानेषु** which means (1) to worship the Deva or Devas, (2) to associate with the Devas, and (3) to give. Thus Brahma Yajyan means

1. Worship of the Supreme God and seeking His Presence.
2. Being in touch with the Vedas and imparting their knowledge to others **(स्वाध्याय** and **प्रवचन)**

It is a mistake to confine the Yajyan in question only to a worship of God. The second part which is called **स्वाध्याय** (self-study and **प्रवचन** (imparting knowledge to others) is as important as the first part and should be neglected on no account. The Taittria Upnishad lays stress on it as under :—

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ऋतं च स्वाध्याय प्रवचने च । सत्यं च स्वाध्याय प्रवचने च । तपश्च स्वाध्याय प्रवचने च । दमश्च स्वाध्याय प्रवचने च । शमश्च स्वाध्याय प्रवचने च । अग्नयश्च स्वाध्याय प्रवचने च । अग्निहोत्रञ्च स्वाध्याय प्रवचने च । अतिथयश्च स्वाध्याय प्रवचने च । मानुषं च स्वाध्याय प्रवचने च । प्रजा च स्वाध्याय प्रवचने च । प्रजनञ्च स्वाध्याय प्रवचने च । प्रजातिश्च स्वाध्याय प्रवचने च । (सत्यमिति सत्यवचाराधीतरः । तप इति तपोनित्यः पौरुशिष्टः । स्वाध्याय प्रवचने एवेति नाको मौद्गल्यः तद्धितपस्तद्धुतपः ॥ तैतिरीयोपनिषद् अनु० ९ म० १ ॥

Which means that you should never neglect a study of the Vedas and their exposition to others under any circumstances. "Follow the law of nature (ऋतं) hand in hand with a study of the Vedas and their exposition to others, (प्रवचन) speak the truth, (सत्यंच) practise religious austerities (तपश्च) by persevering in the path of virtue unmindful of the troubles and persecution which may come, control your mind from erratic thoughts (दमश्च), do not indulge in a gratification of the senses(शमश्च), keep the fires which are prescribed for a house-holder (अग्नयश्च), perform the daily Agnihotra or Deva Yajyan (अग्निहोत्रञ्च), venerate and show hospitality to those who have devoted themselves to the cause of humanity and go about proclaiming the truth, not seeking any personal gain or name (अतिथयश्च), enter into the performance of your avocations in life (मानुषञ्च), propagate the species (प्रजाच), and perform the sex act for the purpose, (प्रजनश्च), lead a house-holder life till you have a grand son (प्रजातिश्च). But while performing all these things and attending to the various duties prescribed for guidance in life never under any circumstances neglect the study of the Vedas and the propagation of their teachings. Whatever else you may have to do, do not bring it forward as an excuse for the neglect of *Swadhya* and *pravachan* etc."

The Vedas are the repositories of truth. But man is apt to neglect their study and to substitute his own ideas for the truth preached through the medium of the Vedas for the benefit of humanity, with the result that man falls into the pit-falls of life and the snares of evil. It is for this reason that a study of the laws of

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nature and the principles of conduct and action as preached in the earliest treasury of knowledge vouchsafed by God unto man is again and again pressed upon the attention of frail man who daily makes up his mind to walk in the path of virtue, but neverthless finds himself daily slipping from that path. Another duty on which stress has been laid is Pravachan (प्रवचन)—(exposition or propagation of the Vedic truth). Those who have received the light of the Vedas, in however small a degree, have been saddled with the obligation of carrying the truth to others, so that truth may be further thrashed out and its benefits may not be limited to the individual who has discovered it.

"SANDHYOPASNAM."

(सन्ध्योपासनम्)

Next we take up the first part of Brahma Yajyan, usually called *Sandhyopasnam* (communion through contemplation). It consists of the following stages :—

1. Preparation to approach Divine presence.
2. Seeking the Divine presence.
3. Realising the Divine presence.
4. Prayer.

Stage I or *Preparation.* For this the devotee must, if possible, repair morning and evening to a place of solitude, away from the hum and buzz of city life, where the place is neat and clean, and the atmosphere sweet and pure. After getting rid of the physical impurities (by ablution etc.), he should seat himself in a convenient position, the trunk of his body and his head erect, his chest forward and his mouth closed. This is the posture which is necessary for the regulation of breath. Having seated himself as above on a chair, or as Indians do, on a carpet of wool or *kusa* grass, over which they sit crossleggged, the devotee should practise *Pranayam* (regulation of the breath) thus :—

First exhale the breath, forcibly but slowly, contracting the abdomen at the same time. Hold the breath in that position as long as it would take to repeat the monosyllable "Om" ten times. Then inhale the pure air from outside, taking a long breath which would occupy as long as it would take to repeat "OM" twelve times, expanding the chest while doing so and keeping the head close to the chest. Hold the air inside as long as it would take to repeat the word "OM" sixteen times. This process is called one

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Pranayam. The period of restraining the breath outside and inside may be doubled after some practice.

You must practise at least three *Pranayams* at a time, and if this does not give you sufficient concentration, you can increase the number of *Pranayams*. The long breathing in pure fresh air regulated as above, not only serves to concentrate the attention, but is also conducive to health and (specially healthy lungs).

Some people are apt to think that *Pranayam* is dangerous to health. If practised in the wrong way, it may be harmful as any other good thing may be, if not done in the right way. Nor is any special course of diet necessary for people practising *Pranayam*. Of course a simple, non-irritant diet, avoiding an abundant use of chillies and acids, and things baked in oil should be the rule even for persons who do not practise Pranayam. But it is not usually the diet that is responsible for any bad results which may follow the practice of *Pranayam*. In those cases people really overdo the thing. It is, therefore, important to bear in mind that in the case of married persons (house-holders) the breath should not be stopped for a longer period than that mentioned above. Further it is necessary to bear in mind that the exhalation of the breath should never be sudden and violent, and specially after it has been restrained inside. It should rather be via the throat than direct to the nostrils, so as to reduce the ordinary distance to which the breath goes out in exhalation during the waking state. After the breath has been restrained inside, the exhalation should be as gentle as the descent of a person down a difficult slope where he is careful not to take a precepitate step, lest he should hurl himself down into an unknown pit.

There are two occasions when Pranayam is performed in the course of the Sandhyopasnam. The first is at the very commencement, when you keep your mind constantly on the various attributes of God connoted by the mono-syllable OM (ओ३म्) the exposition of which will be found along with that of the *Gayatri Mantra*. The second Pranayam comes immediately after the *Marjan* (मार्जन) when Divine grace is invoked for the purification of the mind and the senses. The second *Prannyam* is accompained with meditation on the Divine attributes devoted by the sevon *Vyahrities* भूः, भुवः, स्वः, महः, जनः, तपः, सत्यम् ॥ तैति० प्रपा० १० अनु० २७ ॥ That is to say, God is (भूः) the life of this universe,

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and of all things contained in it. He is (भुवः) the purifier and destroyer of misery. He is (स्वः) all-bliss and all-pervading. He is (महः) the greatest of all beings. He is (जनः) the progenetor of all. He is (तपः) all knowledge. He is (सत्यम्) indestructible

Achman. Pranayam practised in the hot season is apt to bring on perspiration and a little dryness in the throat. To remove this dryness, a few drops of water, just enough to reach the throat and no more are taken with a spoon or otherwise, usually with the palm of the right hand. And while this is done the *Achman Mantra* given below is recited to bring home the benefits of water, and to concentrate the mind on the real object in view (viz the worship of God) to which these steps are but preparatory. The *Achman Mantra* is this:—

ओ३म् शन्नो देवी रभिष्टय आपो भवन्तु पीतये ।
शंय्यो रभि स्रवन्तुनः ॥ यजुः अ० ३६ । १२ ॥

This has a two fold meaning: (1) Spritual आध्यात्मिक and the other (2) Material आधिभौतिक as explained below:—

(1) (आपः from आप्लृ व्याप्तौ) May the all-pervading mother possessed of all the brightest attributes in an infinite degree (देवी) bring happiness to us (शन्नः भवन्तु) fulfil such of our desires as are really for our good (अभिष्टये), and may She shower (अभिस्रवन्तु) Her choicest blessings on us (शन्नः)

(2) May the waters (आपः), with bright properties (देवी), bring happiness to us (शन्नः भवन्तु), meet our wants (अभिष्टये), and serve us for drinking purposes (पीतये from पा, पाने and may waters with healing properties (शंयो) flow around us (अभिस्रवन्तुनः)

III. INDRIYA SPARSHA.

III *Indriya Sparsha or Touching the Senses* is the next step. The devotee exercises his will power on each sense one after another and takes a vow with reference to each sense separately that he will not make a perverted use of it and that he will so use it as to keep it in a state of health and strength throughout his life and further prays that the use of his faculties and senses may redound to his own credit and to the good of mankind. The Indriya Sparsha Mantra is as follows:—

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ओं वाक् वाक् । ओं प्राणः प्राणः । ओं चक्षुः चक्षुः । ओं श्रोत्रम् श्रोत्रम् । ओं नाभिः । ओं हृदयम् । ओं कण्ठः । ओं शिरः । ओं बाहुभ्यां यशोबलम् । ओं करतल करपृष्ठे ॥

In the presence of God (ओ३म्) I take the vow (1) that I will not be a slave to my gustatory sense, and that my speech shall be true, pure, and sweet (वाक् वाक्) (2) that my breath shall be regulated (प्राणः प्राणः) (3) that I will so conduct myself that my sight shall be normal and pure (चक्षुः चक्षुः), and (4) that my hearing shall be unaffected and my ears shall not hear impure words. Further I take the vow (5) that I will observe sexual purity, and that my sexual appetite (lit: centre or corner stone of vitality) (नाभिः) shall be normal, (6) that my heart shall be dauntless, strong and liberal, and full of love for all creatures and that I will not fall a prey to anger, avarice, jealousy, vanity, hatred or any other low possion, (हृदयम्), (7) that my voice shall be sweet (कण्ठः) (8) that my brain shall be healthy and the abode of a sound mind and that I will never entertain an evil thought (शिरः), (9) that my arms shall be strong and bring me a good name (i.e., I will so use my power as to redound to my glory) (बाहुभ्याम् यशोबलम्), and (10) that the palms of my hands shall have strength enough to defend me against external attacks (करतल करपृष्ठ) i.e., may I have general health and strength.

IV. *Marjan* is the next step in preparation. It consists in sprinkling water over the various organs and invoking Divine grace for the purification of the Senses and the Mind. The sprinkling of water is emblematic of purification and is also intended to keep away dullness. It is not obligatory in a cold climate or where water may not be available. The following is the *Marjan Mantra:*—

ओं भूः पुनातु शिरसि । ओं भुवः पुनातु नेत्रयोः । ओं स्वः पुनातु कण्ठे । ओं महः पुनातु हृदये । ओं जनः पुनातु नाभ्याम् । ओं तपः पुनातु पादयोः । ओं सत्यं पुनातु पुनः शिरसि । ओं खं ब्रह्म पुनातु सर्वत्र ॥

May the Universal Life purify my brain (intellect), may the All-Holy purify my sight, May the All-Bliss purify my voice, may the Infinitely-Great purify my heart (feelings), may the Supreme-Father purify the Sense of procreation (नाभिः), may the centre

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of all energy (**तप्यते समर्थोभवति येन तत्तपः**) purify my feet (activity), may the eternal Fountain of truth again purify my intellect, may the All-perveding God purify my entire-self,

V. SECOND PRANAYAM.

Next comes the second *Pranayam* above reffered to. As explained before, the devotee concentrates his mind on the following mantra while regulating the breath:—

ओं भूः। ओं भुवः। ओं स्वः। ओं महः। ओं जनः। ओं तपः। ओं सत्यम्॥ तैति० आ० १० ३५॥

O God! Thou art the Life of this Universe, Thou art All-holy and the Universal Purifier, Thou art All-pervading and All-bliss, Thou art Infinitely great, Thou art the Supreme Progenitor, Thou art All-Knowledge and the Centre of Energy, Thou art eternal and the Fountain of Truth.

VI. CONTEMPLATION OF THE DIVINE GREATNESS.

The mantras by which this is done are called the *Aghmarshan* mantra (**अघमर्षण मन्त्राः**), i.e., those which enable to devotee to keep clear (**मर्षण** from **मृषुतितिक्षायाम्**) of sin. The devotee is transported in thought to the time when the present Kosmas was evolved out of chaos according to certain laws and in a certain order, and contemplates in silent awe the infinite might and glory of his Maker, who has created stupendous objects like the sun and moon and upholds them in their places. The mantras further bring home to the devotee's mind the fact that all beings in the Universe. (**विश्वस्य-मिषतो**) are subject to God's laws (**वशी**) and therefore it is not possible to violate His laws or commandments with impunity and that the best course is to find out those laws and yield obedience to them. The *Aghmarshan mantras* are these:

ओं ऋतञ्च सत्यञ्चाभीद्धात्तपसोऽध्यजायत।
ततो रात्र्यजायत ततः समुद्रोअर्णवः॥
समुद्रादर्णवादधि सम्वत्सरोअजायत।
अहोरात्राणि विदधद्विश्वस्य मिषतोवशी॥
सूर्या चन्द्रमसौधाता यथा पूर्वमकल्पयत्।
दिवञ्च पृथिवीञ्चान्तरिक्षमथोस्वः॥ऋक्मं०१०सूक्त१९०मं१।२॥३

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From the kindled knowledge of God (**अभीद्धात् तपसः** । " **तपसा चीयते ब्रह्म ततो अन्नमभिजायते** " Mundak Upnishad **मुं० १ खं० १ मं० ८**) are brought forth (**अध्यजायत**), the Laws of nature (**ऋतम्**), and the primordial form of matter (**सत्यञ्च**), then there is evolved the utter darkness—chaos (**रात्री**), and then the waters (**अर्णवः**), running about the firmament (**समुद्रः** see Nighantu) i.e., matter in a liquid form. From the liquid state in the firmament comes out the condition when globes become habitable (**सम्वत्सरो अजायत—सम्यग्वसन्त्यत्र सम्वत्सरः**). The Lord of all sentient beings (**विश्वस्यमिषतोवशी**), makes the divisions of day and night (**अहोरात्राणि विदधद्**). The Creator (**धाता**), creates (**अकल्पयत्**) as in previous Kalpas (**यथा पूर्वम्**) the sun and the moon (**सूर्याचन्द्रमसौ**), the luminous (**दिवञ्च**) and opaque globes (**पृथिवीम्**), the firmament (**अन्तरिक्ष**) and the worlds called *Swah* (**स्वः**).

STAGE 2. SEEKING THE DIVINE PRESENCE.

Having purified his body and mind, having taken a vow to walk with God, having invoked the Divine grace for success in his efforts, having transported himself to a condition in remote antiquity far away from the turmoils and degrading influences of earthly surroundings and having uplifted himself by meditation upon the grandeur, and majesty of God's creation, the devotee comes to a stage where he is in a position to seek the Divine presence. The mantras relating to this are called the *Mansa Parikrama Mantras* (**मनसा परिक्रमा मन्त्राः**) i.e., mental circum-ambulation or compelling the mind to traverse all the directions of space and realising the Divine Presence everywhere. The Mansa-Parikrama Mantras are these:

ओं प्राची दिगग्नि रधिपति रसितो रक्षिता दित्या इषवः। तेभ्यो नमोऽधिपतिभ्यो नमो रक्षितृभ्यो नम इषुभ्यो नम एभ्यो अस्तु । योऽस्मान्द्वेष्टि यं वयं द्विष्मस्तंवो जम्भे दध्मः ॥ १ ॥

ओं दक्षणा दिगिन्द्रोऽधिपति स्तिरश्चि राजी रक्षिता पितर इषवः। तेभ्यो नमोऽधिपतिभ्यो नमो रक्षितृभ्यो नम इषुभ्यो नम एभ्यो अस्तु । योऽस्मान्द्वेष्टि यं वयं द्विष्मस्तंवो जम्भे दध्मः ॥ २ ॥

ओं प्रतीची दिग्वरुणोऽधिपतिः पृदाकू रक्षितान्नमिषवः। तेभ्यो नमोऽधिपतिभ्यो नमो रक्षितृभ्यो नम इषुभ्यो नम एभ्यो

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अस्तु । योऽस्मान्द्वेष्टि यं वयं द्विष्मस्तं वो जम्भे दध्मः ॥३॥

ओं उदीची दिक्सोमोऽधिपतिः स्वजोरक्षिताऽशनिरिषवः । तेभ्यो नमोऽधिपतिभ्यो नमो रक्षितृभ्यो नम इषुभ्यो नम एभ्यो अस्तु । योऽस्मान्द्वेष्टि यं वयं द्विष्मस्तं वो जम्भे दध्मः ॥४॥

ओं ध्रुवा दिग्विष्णुरधिपतिः कल्माषग्रीवो रक्षिता वीरुध इषवः । तेभ्योनमोऽधिपतिभ्यो नमो रक्षितृभ्यो नम इषुभ्यो नम एभ्यो अस्तु । योऽस्मान्द्वेष्टि यं वयं द्विष्मस्तं वो जम्भे दध्मः ॥ ५ ॥

ओं ऊर्ध्वा दिग्बृहस्पतिरधिपतिः श्वित्रो रक्षिता वर्ष इषवः । तेभ्यो नमोऽधिपतिभ्यो नमो रक्षितृभ्यो नम इषुभ्यो नम एभ्यो अस्तु । योऽस्मान्द्वेष्टि यं वयं द्विष्मस्तं वो जम्भे दध्मः ॥६॥

These mantras are rather difficult to understand. The following translation is offered as tentative only :

God [अग्निःअग्रणीर्भवतीति-ब्रह्मनाम"] is Lord [अधिपतिः] of the East (प्राची) where He manifests Himself through the forces of light and heat (अग्निः). He who is absolutely free (असितः) is our Protector (रक्षिता), and the Suns (in the Universe) (आदित्याः) are the instruments through which He imparts life, protects and destroys [(इषवः) means life as well as arrows—from इष्, इषति, गच्छति हिनस्ति वा]. We bow down (नमः) unto the Lord (आधिपतिभ्यः), we bow down (नमः) unto our Protector (रक्षितृभ्यः), and we submit ourselves unto (i.e. by following His Laws) and are thankful for (नमः) His instruments (इषुभ्यः). We respect all these (नम एभ्यो अस्तु). If there is any one who cherishes ill will towards us [यो ३ स्मान् द्वेष्टि], and towards whom we have a similar feeling (यम्वयंद्विष्मः) may we leave him to Thy Judgment. (lit: place him into Thy jaws (तंवो जम्भे दध्मः) (That is) may we be at peace with the world and may the world be at peace with us.

[In other words, our attitude towards others should be that even when we have a grievance which we consider to be real, we should never entertain the least thought of doing them injury on that account, for no one has a right to be judge in his own cause.]

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2. The Almighty (इन्द्र from इदिपरमैश्वर्य्यं) God is Lord (अधिपतिः) of the South (दक्षिण) where He Manifests Himself through the Electric forces (इन्द्र). He who is of unfathomable (lit : oblique) (तिरश्चि) glory (राजी from राजृ-दीप्तौ, राजते दीप्यतेऽसौ राजि राजी) our protector (रक्षिता), the wise men (पितरः) being the instruments (इषवः) through whom He imparts life, protects and destroys. We bow down unto the Lord, we bow down unto our Protector, and we submit unto, and are thankful for His instruments. May we not cherish ill-will towards anyone and may no one cherish ill-will towards us.

N. B. तिरश्चि राजी also means with reference to Electricity "having an oblique course."

3. The good God who is ever well-disposed towards His creatures (वरुणः वृणोति व्रियते वाऽसौ वरुणः), is Lord (अधिपतिः) of the west (प्रतीची), where He manifests Himself through the forces of water (वरुणःउत्तमंजलम्) He who controls the thunders and lightning (पृदाकू पर्दते कुत्सितं शब्दंकरोतीतिपृदाकू) is our Protector (Suporter) (रक्षिता) food (अन्नम्) being the instruments through which He imparts life, protects and destroys (इषवः). We bow down unto the Lord; we bow down unto our Protector; and we submit unto, and are thankful for His instruments. May we not cherish ill-will towards any one and many no one cherish ill-will towards us.

4. God the Prime Cause of Energy सोमः—सुवत्यैश्वर्यहेतुर्भवतीति सोमः) is Lord (अधिपतिः) of the North (उदीची) where He manifests Himself through the forces which generate life (सोमः). He who Himself is never born (स्वजः) is our Protector (रक्षिता). The pervading force of Electricity (अशनिःयेनाश्नुतेव्याप्नोति वा सः) is the instrument by which He imparts life, protects and destroys (इषवः). We bow down unto the Lord, we bow down unto our Protector, and we submit unto, and are thankful for His instruments. May we cherish no ill-will towards any one, and may no one cherish ill-will towards us.

5. The all pervading (विष्णुः) God is Lord (अधिपतिः) of the Neither regions (ध्रुवा दिग्). He whose ways of destruction (lit:swallowing up ग्रीवा निगलति यया सा) are manifold variegated (कलाप) is our Protector (रक्षिता), the Vegitable kingdom (वीरुध) being the instruments by which He imparts life, protects and destroys (इषवः)

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we bow down unto the Lord, we bow down unto our Protector, and we submit unto, and are thankful for His instruments. May we cherish no ill-will towards anyone, and may no one cherish ill-will towards us.

6. The Lord of great worlds (**बृहस्पतिः**) presides over (**अधिपतिः**) the zenith (**ऊर्ध्वादिग्**). He who sends down prosperity (**श्वित्रः** from **श्वि** to grow) is our Protector **रक्षिता**). The rains (**वर्षम्**) are the instruments (**इषवः**) by which He imparts life, protects and destroys. We bow down unto the Lord, we bow down unto our Protector, and we submit unto and are thankful for His instruments. May we cherish no ill-will towards anyone, and may no one cherish ill-will towards us. (May we be at peace with the whole world.)

N. B. **प्राची** also means the direction in front, **प्रतीची** the direction at the back, **दक्षिण** -that to the right and **उदीची** -that to the left. Therefore the devotee should contemplate God as filling all space and all direction and also realise His Presence immediately on all sides of himself.

3. *Realising the Divine Presence, or Communion with God*

When the devotee sees nothing but God every where, he naturally realises His glory to a greater extent, and exclaims in adoration that God is the Light of all lights and the controlling force pervading and directing the entire Universe. The mantras relating to this are called the Upasthan mantras (**उपस्थान मन्त्राः**) which literally means "sitting near" or "association with." They are as follows:—

(१) **ओं उद्वयं तमसस्परिस्वः पश्यन्त उत्तरम् ।**
देवं देवत्रासूर्य्यं मगन्मज्योति रुत्तमम् ॥ यजु० ३५ । १४ ॥

(२) **ओं उदुत्यं जात वेदसं देवं वहन्ति केतवः ।**
दृशे विश्वाय सूर्य्यम् ॥ यजु० ३३ । ३१ ॥

(३) **ओं चित्रं देवाना मुदगादनीक चक्षुर्मित्रस्य वरुणस्याग्नेः ।**
आप्राद्यावा पृथवी अन्तरिक्षꣳसूर्य्य आत्मा जगतस्तस्थुषश्च स्वाहा ॥ यजु० ७ । ४२ ॥

(४) **ओं तच्चक्षुर्देवहितं पुरस्ताच्छुक्रमुच्चरत् । पश्येमशरदः शतं जीवेम शरदः शतꣳशृणुयाम शरदः शतं प्रब्रवाम शरदः शतमदीनाः स्याम शरदः शतं भूयश्च शरदः शतात् ॥ यजु० ३६ । २४ ॥**

1. While thus perceiving (**पश्यन्तः**) God all around us, we (**वयं**) have attained (**उदगन्म**) to Him who is the opposite (**परि**) of darkness and sin (**तमसः**) who is all-Bliss and all-pervading (**स्वः**), who has Existed from all Eternity (**उत्तरम्**), who is the most glorious of all bright objects, things and persons (**देवंदेवत्रा**), the Creator (**सूर्यम्**) of the Universe, and the most Refulgent of all lights (**उत्तममज्योतिः**)

(To be continued).

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NOTES.

THE ARYA SAMAJ VINDICATED ONCE AGAIN !

Ever since the publication of the "Arya Samaj and its Detractors" the air has been clearing in regard to the misconceptions which formerly existed in the public mind of Great Britain about the true mission of the Arya Samaj.

That book has proved an antidote to Chiroltine. Lord Morley in his remarkable article in the "*Nineteenth Century and After*" set the ball rolling by giving a fair though succinct presentment of the Arya Samaj case. After that many fair-minded foreigners like Mr. Phelps, Mr. Fox Pitt, and others took up the cudgels in behalf of our persecuted and long—suffering church. The eyes of publicists have been opened and Sir Chirol's *ipsidixits* are no longer accepted as gospel truths nor is he regarded an infallible authority and an unerring guide in regard to Indian affairs. People now think and observe for themselves and read, mark and inwardly digest the literature of the Arya Samaj instead of swallowing the peptonised pills of opinion and comment supplied by venomous writers of the ilk of the redoubtable Sir Valentine.

The last recruit to the ranks of friends of the Arya Samaj is no less a personage than Mr. J. A. Spender, Editor of the *Westminster Gazette*, the foremost organ of liberal and progressive public opinion in England. He takes a sane, sober, and on the whole an astonishingly correct view of the situation in India. He does not run into hysterics over fancied sedition and undiscovered and undiscoverable dens of anarchy. Nor does he talk bunkum and balderdash about Indians being mentally inferior to Englishmen and their temperamental and congenital unfitness for self-government and the exercise of collective and corporate responsibility. Writing in his journal about his impressions during his recent visit to India in connection with the Imperial Coronation Durbar, Mr. Spender says:—

"To the traveller in India the surprising thing is not that there should be unrest but that there should ever be any rest. When he realises the vast number of the inhabitants, their differences in race, creed and language, the high degree of intelligence and the subtlety of mind with which large numbers of them are endowed, he wonders only how it is possible to find governing formulas to suit them all. India may impress him as poor, as squalid, as mediæval, but never for a moment can it strike him as a crude or barbarous country which could be easily governed by force. Evidences meet him everywhere of art, originality, and refinement.

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He will see more beautiful faces in a morning's walk in an Indian bazar than in any European city, and he will be charmed to see the grace and courtesy of the common folk. It may surprise Englishmen to hear it, but many Indians seriously express the opinion that the Indian is mentally the superior of the Englishmen, while freely conceding that the latter is the more effective and the more practical. However this may be, one does get the impression in India that to rule these people permanently must be an intellectual effort of a high order, for which no police, however vigilant, and no army, however strong, can in the long run be a substitute."

Mr. Spender holds that important movements like the Arya Samaj are religious and philosophical and not political. Says he:—

"Numerous societies, *and chief among them the Arya Samaj, are at work with the professed and, I believe, quite sincere purpose of purifying Hinduism and mitigating the divisions of caste.* In all parts of India sages and preachers are making their appearance, who find a ready hearing for a simple doctrine *not far removed from that of the Sermon on the Mount.* The Government of India is worried about these, much as Herod was worried about John the Baptist. It suspects them of being preachers of sedition under the guise of religion; it scents danger in any movement which threatens to change what it has assumed to be unalterable in the native character. *And yet I find a general agreement among careful observers that a real revivalist spirit is at work which, if rightly handled, should be a great aid to good government.*"

We draw the attention of the extreme wing of the bureaucracy to the words italicised. We think there are signs of returning sanity—at least this is what English friends who move in the highest circles assure us. We have the highest authority for stating that the misconceptions of those who are at the helm of affairs have been removed and even district officials are now realizing that the revivalist movement is a world—movement which has come to stay and that the wisest course would be not to alienate the sympathy of the leaders of this movement but to utilize this dynamic force for the good of the government and the promotion of the genuine well-being of the governed. Let us hope that calumny, backbiting, and audacious malignity will cease to be treated as reliable information and that the rulers of the land will establish close personal relations with the real leaders of public opinion who are sometimes different from the kow—towing jo-hozurs with whose genuflextions the lord of the district is so familiar. Then an era of peace will dawn upon the country, the roots of British connection will go deep down into the soil, and the combined efforts of the English officials and Indian leaders will lead to the broadening of the bases of law and order and to the advancement of the prosperity and happiness of a grateful nation. The shades of the East and the West will blend into a harmonious whole and succeeding generations of grateful Indians will speak in terms of warm and cordial affection untraceble to the "praiseworthy" endeavours

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of the C. I. D. of a liberty-loving nation of the West which found India a hotbed of intrigue, misrule, anarchy and discontent and gradually raised it to the pinnacles of autonomy and glory and restored it to the heights to which it had attained in an age lost in the mists of antiquity. This is a consummation devoutly to be wished for.

BUDHIST LOANS TO CHRISTIANITY

Mr. Albert J. Edmunds, the well-known authority on Budhism, writes convincingly in *The Monist* for January 1912 on the above subject. In an article in the October *Monist* Professor Garbe of Tubingen admitted that Budhist influence upon the Christian apocryphal Gospels and the Eustace and Christopher legends was undeniable. Mr. Edmunds goes a step further and quotes two passages from the Gospel of Luke which appear to him to agree as closely with the earliest Budhist text as do the saint-legends admitted by Professor Garbe. Towards the conclusion the learned writer expresses a hope that if Professor Garbe's admission receives its "brevet of orthodoxy," the next step will lead a new generation of scholars back to the canonical Gospels and the canonical Nikayas. We reproduce below one of the parallels cited by Mr. Edmunds:—

THE ANGELIC HERALDS AND THEIR HYMN.

Luke ii. 8–14.

And there were shepherds in the same country abiding in the field, and keeping watch by night over their flock. And an *angel* of the Lord stood by them, and the glory of the Lord shone round about them: and they were sore afraid; and the angel said unto them, be not afraid; for behold, I bring you good tidings of *great joy* which shall be to all the people: for *there is born* to you this day *in the city of* David a Saviour, which is *Christ* the Lord. And this is the sign unto you; Ye shall find a babe wrapped in swaddling clothes, and lying in a manger. And suddenly there was with the angel a multitude of the *heavenly host praising* God, and saying,

Glory to God in the highest,
And on earth peace, divine favor among men.

Sutta Nipato, Mahavagga, Nalakasutta (known only in Pali, but with analogues in later Buddhist books).

The heavenly hosts rejoicing, delighted,
And Sakko the leader and *angels* white-stoled,
Seizing their robes, and *praising* exceedingly,
Did Asito the hermit see in noonday rest.

[He asks the angels why they rejoice, and they answer:]

The *Buddha-to-be*, the best and matchless Jewel,
Is born for weal and welfare in the world of men,
In the town of the Sakyas, in the region of Lumbini:
Therefore are we joyful and *exceeding glad.*

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The writer goes on to prove conclusively that the Pali words *hita-sukhataya* (" *for blessing and happiness*) mean very much the same as the English phrase, "peace and prosperity."

AN ANCIENT ARYAN EUGENIC PRACTICE REVIVED IN THE WEST.

The ancient Aryas were the discoverers of the Science of Eugenics. They believed that the breeding of human beings was one of the most sacred of functions and that no responsibility was more awful than that of ushering into existence a new being. The different pre-natal and ante-natal *sanskaras* which they absolutely prescribed constitute the organised expression of the determination of the community to bring under social control and communal subordination the agencies likely to improve or impair the racial qualities of future generations, physically, mentally, and morally. They fully realized the supreme importance of heredity in the formation of character. Manu puts the whole case for heredity in a nut-shell when he says:—

पतिरार्यां सम्प्रतिश्यगर्भो भूत्वेहजायते । जायाया स्तद्धि जायात्वं यदस्यां जायते पुनः ॥

(यादृशं भजतेहि स्त्री सुतं सूते तथा विधम् तस्मात् प्रजा विशुद्धर्थं स्त्रियं रजेत्ययत्नतः)

It means:—

" The husband, after conception by his wife, becomes an embryo and is born again of her; for that is the wife-hood of a wife that *he is born again by her. As the male is to whom a wife cleaves, even so is the son whom she brings forth;* let him therefore carefully guard his wife, *in order to keep his offspring pure.*"

Knowing that the influence of heredity was strong, they provided for the creation of healthy counteracting, neutralizing, and nullifying environments for the eradication of hereditary vicious tendenceies both during conception and after birth. But they recognised that heredity was so dominant a factor in the formation of character and the constitution of what is called " nature," or "temperament," that the persistence of certain hereditary proclivities—even after the most beneficent forces had been set in operation for rendering them nugatory —was absolutely certain. They, therefore, laid down that persons suffering from incurable physical, mental, and moral diseases should not be permitted to transmit their taints to future generations.

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Says Manu:—

महान्त्यपि समृद्धानि गोऽजा विधन धान्यतः ।
स्त्री सम्बन्धे दशैतानि कुलानि परिवर्जयेत् ॥ मनु० ३ । ६ ॥
हीन क्रियं निष्पुरुषं निश्छन्दो रोम शार्शसम् ।
क्षय्या मया ऽपय स्मारि श्वित् कुष्ठि कुलानि च ॥ मनु० ३ ।७॥

It means :—

"In connecting himself with a wife, let a man studiously avoid the ten following families be they ever so great in political power or rank, or ever so rich in cows, goats, horses, elephants, gold or grain. The family which is not religious, that which is destitute of men of character, that in which the study of the Veda is neglected, that which has thick and long hair on the body and that which is subject to such diseases as piles, consumption, asthma bronchitis, dyspepsia, epilepsy leprosy and Albuminism; because all these faults and diseases are transmitted to the offspring. Therefore both husband and wife should come from good (physically intellectually and morally) families"

Dyspepsia occurs in the list of diseases in this quotation. It is not yet realized in the West how many tragedies in international affairs can be avoided if each country is careful not to select a dyspeptic as its foreign minister. A dyspeptic is necessarily irritable, peevish, and pettish, and cannot be expected to observe the amenties of social life or to be careful about the choice of felicitous language. No one who has studied the history of diplomatic transactions in the civilized world can deny that impatience and irritability exhibited in a despatch by a dyspeptic minister not unoften lead to unlooked for complications and startling developments in the international situation. Dyspepsia and upepsia have much more to do with statecraft and general social happiness and well being than is ordinarily supposed.

But to return to the subject proper. It is reassuming to note that Eugenics is making headway in the West and researches in the domain of this all-important science have begun to influence legislation. A bill drafted on the main lines indicated in the quotation from Manu has only recently been passed by the New Jersey Legislature. The full text of the Act appears in the January numbers of the *"Eugenics Review"* We reproduce it here in the hope that it will interest our readers.

"Whereas, Heredity plays a most important part in the transmission of feeble-mindedness epilepsy, criminal tendencies and other defects:

"Be it enacted by the Senate and General Assembly of the State of New Jersey.

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"1. Immediately after the passage of this act the Governor shall appoint by and with the advice of the Senate, a surgeon and a neurologist, each of the recognised ability, one for a term of three (3) years, and one for a term of five (5) years, their successors each to be appointed for the full term of five years, who in conjunction with the Commissioner of Charities and Corrections shall be known as, and is hereby created, the 'Board of Examiners of Feeble Minded (including Idiots and Imbeciles) Epileptics, Criminals and Other Defectives,' whose duty it shall be to examine into the mental and physical condition of the feeble-minded, epileptics, certain criminals and other defective inmates confined in the several reformatories, charitable and penal institutions in the counties and state. Any vacancy occuring in the said board of examiners shall be filled by appointment of the Governor for the unexpired term.

"2. The criminals who shall come within the operation of this law shall be those who have been convicted of the crime of rape, or of such successive offences against the criminal law as in the opinion of this board of examiners said be deemed to be sufficient evidence of confirmed criminal tendencies.

"3 Upon application of the superintendent or other administrative officer of any institution in which such inmates are, or may be confined, or upon its own motion, the said board of examiners may call a meeting to take evidence and examine into the mental and physical condition of such inmates confined as aforesaid and said board of examiners in conjunction with the chief physician of the institution, unanimously find that procreation is inadvisable, and that there is no probability that the condition of such inmate so examined will improve to such an extent as to render procreation by such inmate advisable, it shall be lawful to perform such operation for the prevention of procreation as shall be decmed by said board of examiners to be most effective, and thereupon it shall and may be lawful for any surgeon qualified under the laws of this state under the direction of the chief physician of said institution, to perform such operation: previous to said hearing the said board shall apply to any judge of the Court of Common Please of the county in which said person is confined for the assignment of counsel to represent the person to be examined, said counsel to act at said hearing and in any subsequent proceedings, and no order by said board of examiners shall become effective until five days after it shall have been filed with the Clerk of the Court of Common Pleas of the county in which said examination is held, and a copy shall have been served upon the counsel appointed to represent the person examined, proof of service of the said copy of the order to be filed with the clerk of the Court of Common Pleas.

"All orders made under the provisions of this act shall be subject to review by the Supreme Court or any justice thereof, and said court may, upon appeal from any order, grant a stay which shall be effective until such appeal shall have been decided. The judge of the Court of Common Pleas appointing any counsel under this act may fix the compensation to be paid by him, and it shall be paid as other court expenses are now paid.

"No surgeon performing an operation under the provisions of this law shall be held to account therefor, but the order of the board of examiners shall be a full warrant and authority therefor.

"4. The record taken upon the examination of every such inmate, signed by the said board of examiners, shall be preserved in the institution where such inmate

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is confined, and a copy thereof filed with the Commissioner of Charities and Corrections, and one year after the performing of the operation the superintendent or other administrative officer of the institution wherein such inmate is confined shall report to the board of examiners the condition of the inmate and the effect of such operation upon such inmate. A copy of the report shall be filed with the record of the examination.

"5. There shall be paid out of the fund appropriated for maintenance of such institution to each physician of said board of examiners a compensation of not more than ten dollars ($10) per diem for each day actually given to such work or examination and his actual and necessary expenses in going to, holding and returning from such examination.

"When in the judgment of the board of examiners it is necessary to secure the assistance of a surgeon outside the medical staff of the institution to perform or assist in said operation the necessary expenses of such surgeon shall be paid from the maintenance account of such institution.

"6. If any provisions of this act shall be questioned in any court, and the provisions of this act with reference to any class of persons enumerated therein shall be held to be unconstitutional and void, such determination shall not be deemed to invalidate the entire act, but only such provisions thereof with reference to the class in question as are specifically under review and particularly passed upon by the decision of the court.

"7. This act shall take effect immediately."

We hail the awakening of the West to the supreme need of drastic measures for the protection of offspring from the tyranny of the vicious and rejoice at the triumph of Vedic and Shastric principles in this age which has such a low opinion of the wisdom of its forbears. But we cannot help remarking that the methods adopted by the pushing and self-sufficient West are radically different from those which the Rishis advocated.

The present is the age of the supremacy and dominance of self; in ancient time self-suppression was the rule of life. The methods adopted by the West are charateristic of the Philosophy of Life the keynote of which is summed up in the words "Let the weaker go to the wall." Each man now lives for himself and "charity" according to this philosophy is only an indication of a feeble mind and morbid nervousness.

Under these circumstances, the force summoned into service for the neutralization of retarding agencies must necessarily be brutal—and that force is represented by the police, big battalions, bloated armaments and punitive laws. In ancient India the essential kinness of all spirits was recognised and each man was expected to live for others and therefore the force pressed into service for the protection of society and posterity was necessarily spiritual.

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In ancient time it was the religious duty of each household to protect the halt, the blind, and the maimed; now rates have to be levied by the state. In ancient time all children were the children of the community and hence all children of school going age were educated and maintained free of all charge no matter whether they were princes or orphans; now orphanages have to be maintained and orphans fed with coarse food and clothed with the shreddings, flouncings, and trimmings of the vain. In ancient India even waifs and strays felt that they had the same opportunities for the development their higher self and the evolution of their mental and moral capacities as those born with silver spoons in their mouths. Now an orphan must be made to feel, by differential treatment, that he belongs to the "submerged classes" and his natural faculties, however great, must have an atmosphere of depression, discouragement, and asphyxiating debasement and humiliation to arrest, hamper, and impede their development. In ancient times, therefore, society could trust to moral force for the enforcement of Eugenic laws; now state interference has to sought to effect the same purpose.

EDUCATION AND CHARACTER-BUILDING.

The Gurukula is a protest against the godless system of education prevailing in India at the present time. It has been repeatedly pointed out in these columns that education is a double-edged sword and unless the recipient produces moral guarantees that he will use it for the good of his kind may be a curse rather than a blessing. Knowledge is certainly power. But like other kinds of Power it is as effective for good as for evil. Water is a great natural force, but it has in it as much the potentiality to destroy crops and spread devastation and disaster in peaceful homes as to fertilize the land and transform barren tracts into smiling fields and thus to add to the prosperity and contentment of the people. Some of our political leaders and many of our educationists in India do not sufficiently recognise the importance of this factor in judging of the results of educational activities.

It is, however, a matter for congratulation that the real masters of India are fully alive to the supreme importance of this aspect of the problem. The *United Empire* of London, the leading organ of Imperial public opinion in the British Empire, while commenting on the grant of fifty lakhs for the promotion of truly popular education makes some profound, weighty, sound, and sane observations. We endorse every word of what our learned contemporay says.

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After remarking that the announcement has been greeted with a "chorus of printed approval," the *United Empire* goes on to say:—

The gift is like life itself—neither good nor bad, neither a boon nor a curse, but an opportunity, which may become either a boon or a curse. If the money is used merely to extend the present system the results will be simply evil; we do not want to spread the merely utilitarian philosophy in India when we ourselves are beginning to abandon that rather threadbare and uninspiring creed. In this country we are beginning to understand that mere book-learning is not everything; our own elementary schools, with their overcrowded curriculum and their smatterings of knowledge, have taught the teachers some of the difficulties ahead It is to be hoped that those who are charged with the future of Indian education *will not make the profound mistake of divorcing it altogether from the facts of Indian life. That way lies trouble and disappointment.* Another point that should be borne in mind is that it is as important to improve the quality of the teachers as to improve the curriculum itself. It is an old fault of British educationists to put the money in the school buildings rather than give the schoolmaster an adequate wage, with the result that the scholastic profession has not, as a rule, attracted the best men to its service. Hence the low esteem in which the teacher is regarded in England as well as in India, and this inevitably reacts on the teacher himself and the instruction he imparts. *The personnel of the teaching staff in India must be improved.*

If the system of education prevailing in India were overhauled and re-organised in the light of the sound criticism offered by our contemporary, anarchy and political charlatanism would be remembered as bad dreams are remembered by persons who have recovered their health and the vigour of their nervous system.

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The Gurukula Samachar.

Motto I:—By the force of *Brahmacharya* alone have sages conquered death.—*The Veda.*

Motto II:—The welfare of society and the justice of its arrangements are at bottom dependent on the characters of its members. .... There is no political alchemy by which you can get golden conduct out of leaden instincts.—*Herbert Spencer.*

The Founder's Day Celebrations. The Founder's Day fell this year on the first of March. It was celebrated on a grander and more magnificent scale than even last year. The students presented an address full of feelings of devoted love and enthusiastic gratitude to the founder Mahatma Munshi Ram and his colleagues. The Headmaster, the Professors and the Acharya replied in suitable terms. Their speeches were full of genuine feeling and sound advice. A detailed account of the proceedings will appear in the next issue.

The Martyr's Day. The Martyr's Day i.e. the death anniversary of Pandit Lekhram, the Arya Martyr, was celebrated with due solemnity in the Gurukula on the 11th of Phalguna. The Vice-principal presided. Several students, the headmaster, and the professors delivered nice short speeches dealing with the various aspects of the illustrious deceased's public activity. The Vice-Principal in summing up said that so long as a church felt confident of the truth of the cause it stood for, it never persecuted but was always the victim of persecution. When, however, the conviction of its apostles was shaken, it took to maintaining its power by physical force. He hoped that the Arya Samaj which stood for eternal truths would not become a persecuting Church but would rather march forward adding, if need be, to its glorious list of martyrs of whom Pandit Lekhram was one.

Our Special Number. The next issue of the *Vedic Magazine* will be a special Gurukula number. It will consist of more than one hundred pages and will be illustrated. This Number will contain articles from the pen of eminent Indians and Europeans on the Gurukula System of Education and the Gurukula at

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Kangri. Mr. St. George Lane Fox Pitt of the London Moral Education League, Mr. F. T. Brooks author of "The Gospel of Life," the Revd. Mr. Stokes, the Revd. Mr. Franks, Pandit Gyan Ram M.A., LL.B., Professor Tulsi Ram M.A., Professor Mahesh Charan Sinha M.Sc., Professor Balkrishna M.A., Sanatak Harish Chandra, and Sanatak Indar Chandra, have already sent in their articles. It is expected that several other distinguished writers will contribute to the number. The subscribers will of course get the number free. Others will be charged 8 as. per copy.

Our Anniversary.

Preparations for the anniversary are in progress. Pundit Tulsiram Swami, Pundit Ghasi Ram M.A., LL.B., Brahmchari F. T. Brooks, Swami Satyananda, Swami Achutanand, B. Brij Nath B.A., LL.B., Pandit Arya Muni Professor D. A. V. College, Pandit Purnanand, Swami Munishwaranand, Sanataks Harish Chandra and Indar Chandra, Mahatma Munshi Ram, Professor Rama Deva and many others will deliver lectures and discourses. In the Saraswati Sammelan (Symposium of the Learned) papers in Sanskrit will be read on "The Development of Sanskrit Literature" and "The gods of the Vedas" and in Arya Bhasha on "Meat Eating and the Shastras," Pundit Vidhushekhar of Bengal, Pandit Satyavaleker the well known Vedic scholar, Pandit Ramavtar Pandey M.A. Sahitacharya of Patna College, Pandit Bhagat Ram Shastri Ved Tirath of the D. A. V. College Lahore, Pandit Jagan Nath Nirukt Ratan of Amritsar, P. Akhilanand Shastri and many other learned men have promised to contribute papers. In the Dev Bani Sammelan the Brahmcharis of the Gurukula will recite sanskrit poems composed by themselves and deliver speeches in Sanskrit. In the Arya Bhasha Sammelan, methods of spreading a knowledge of Arya Bhasha (Hindi), the *lingua franca* of India, will be discussed. The chief feature of the anniversary will, however, be the Dikshant Sanskar (Convocation) for conferring degrees on the first batch of Gurukula Sanatkas (graduates). This is an event to which the Hindu public of Upper India has looking forward with enthusiastic expectation for years. It is expected that thousands who have never visited the Gurukula before will be attracted by this function. Let not our readers forget that the dates of the anniversary are the 5th, 6th, 7th and 8th of April 1912.

Distinguished Visitors.

Mr. Sydney Webb President of the London School of Economics and the author of many splendid works on economic subjects, visited the Gurukula on the 25th of February 1912. He was accompanied by his distinguished consort

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Mrs. Webb. Both Mr. and Mrs. Webb were very highly impressed with what they saw and Mr. Webb recorded the following opinion in the Log Book.

"I was permitted by the courtesy of the authorities to see all over the Gurukula, and to make the acquaintance both of professors and scholars.

I can only sum up my impressions by saying that the institution appears to be a most promising experiment admirably carried out—and one which ought to furnish suggestions for the improvement of other schools and colleges."

A Medical Opinion on the Gurukula.

Just now when a band of hooligans led by a needy adventurer are moving heaven and earth to prove that there is nothing good in the Gurukula—no not ever the site on which it is situated—the following opinion about the site and the climate recorded in the Log Book by a distinguished Medical man, Mr. Sumant Mehta M. B., who visited the institution a few days ago, will be read with interest:—

"It has given Mrs. Mehta and myself very great pleasure to come over here and see this institution. We visited the various class rooms and the boarding houses, the dining halls, the huge bath room, the gardens and the Recreation Grounds. The place is an ideal one being dry and bracing, easy to drain and sufficiently out of the way to escape infectious diseases. In addition to its being a healthy place it is quite picturesque and I have no doubt that the sight of the Himalayan ranges will appeal to the imagination of the young Aryan students and induce them to revive the learning and wisdom of the ancient Rishis. The food given to the boys is severely simple but it is good in quality and quite nutritious. The beddings are hard but warm and everything is being done to educate and discipline the character of the students, to habituate them to lives of "plain living and high thinking."

The American Friends of the Gurukula.

We learn from a letter which we have received from an American sister that the Gurukula movement is exciting considerable interest there and the *Vedic Magazine* is read by many. A paper which our friend characterises as a masterly exposition of the Gurukula System of Education was read by an Aryan gentlemen, who is studying in America, in a meeting of the India Society. The lecture was

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very much appreciated and 2 American gentlemen were enlisted as subscribers to the *Vedic Magazine*. We hope our brother will continue to work for his beloved Church and the Gurukula with unabated zeal.

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